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Settlement patterns and social integration of the population with an immigrant background in the Montréal, Toronto and Vancouver metropolitan areas

by Mireille Vézina and René Houle

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^{r} revised
x suppressed to meet the confidentiality requirements of the *Statistics Act*
^{E} use with caution
F too unreliable to be published
* significantly different from reference category ($p < 0.05$)

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Table of contents

Acknowledgments 3
Highlights 5
Introduction 7
Part 1. Patterns of settlement and social integration 9
1.1. Theory of spatial assimilation and the new social geography 9
1.2 The concept of social integration 10
Part 2. Data source and study population 12
2.1 Main concepts used in this study 12
Part 3. Settlement patterns from 2001 to 2011 14
3.1 Metropolitan distribution of immigrants 14
3.2 Suburbanization of immigrants 16
The time dimension of settlement patterns 18
3.3 Urban concentration of population with an immigrant background 20
Centre and periphery concentration 26
Concentration by census metropolitan area and country of origin of the population with an immigrant background 27
Part 4. Putting down social roots: Does place of residence make a difference? 30
Central and peripheral perspective using the administrative boundary approach 30
Degree of concentration of population with an immigrant background 31
4.1 Personal networks established in Canada 32
Size of personal networks and network of acquaintances 32
Frequency of meetings 35
Ethnic diversity in friend and acquaintance networks 35
Number of new people met 36
Time dimension of immigration and personal networks 36
4.2 Relationships with neighbours 37
Number of residents known in the neighbourhood, and favours done and received 37
Number of trusted neighbours 39
4.3 Volunteer activities and civic engagement 40
Volunteering and participation in group activities 41
4.4 Sense of belonging 42
Conclusion 45
Appendix 1 47
Appendix 2 Independent variables 48
Characteristics of settlement patterns 48
Individual characteristics 48
Religious practice 49
Size of personal networks and volunteering 49
Having been the victim of discrimination or unfair treatment 49
Appendix 3 52
Appendix 4 54
Appendix 5 56
Appendix 6 58
References 60

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by **Mireille Vézina** and **René Houle**

Highlights

The percentage of immigrant's settlement in certain medium-size peripheral municipalities (the suburbanization) has grown in recent years in Montréal, Toronto and Vancouver —Canada's three largest metropolitan areas. According to data from the 2001 and 2006 Canadian censuses and the 2011 National Household Survey, the settlement of the immigrant population in municipalities (census subdivisions) on the periphery of central municipalities grew steadily between 2001 and 2011 in the Montréal, Toronto and Vancouver census metropolitan areas (CMAs).

In the Montréal CMA the proportion of immigrants living in a peripheral municipality rose from 26.8% in 2001 to 32.8% in 2011. In comparison, in the Toronto CMA more than half of the immigrant population (50.6%) was living in a municipality in the periphery of the municipality of Toronto, up 10 percentage points from 2001 (40.3%). The rate of suburbanization in the Vancouver CMA increased from 66.4% to 71.6% during the same period.

The trend of suburbanization of immigrants is observed not only among established immigrants who have lived in Canada for several years and their second-generation descendants, but also among recent immigrants who have been settled for five years or less. In the Montréal CMA, the percentage of recent immigrants living in a peripheral municipality rose from 13.4% in 2001 to 18.9% in 2006, and then to 21.3% in 2011. However, the suburbanization rate of recent immigrants in the Montréal CMA in 2011 is half that of immigrants who have been in Canada more than five years (42.3%).

In the Toronto CMA the percentage of recent immigrants living in a peripheral municipality increased from 31.9% in 2001 to 42.5% in 2011. This percentage also rose for their established immigrant counterparts, from 42.3% in 2001 to 51.8% in 2011, a percentage comparable to that of the second generation and the third generation or higher (54.3% and 56.0% in 2011). In the Vancouver CMA suburbanization rates were higher than in Montréal and Toronto both among recent immigrants and among people in the second generation or in the third generation or higher. The percentage varied little from one group to another (71.6% for recent immigrants, compared with 71.2% for established immigrants and 70.1% for people in the second generation in 2011).

In addition to the suburbanization trend among the different immigrant groups, the population with an immigrant background tends to be concentrated in certain neighbourhoods (census tracts) not only in the central municipalities, but also in the peripheral municipalities. Regardless of the CMA, the values of the dissimilarity index (D) are higher in the peripheral municipalities.

In the three CMAs examined, the populations from the British Isles, the United States, France and Germany—four groups that have an earlier presence in Canada—are consistently the least concentrated groups. Conversely, the groups with a more recent presence in Canada, for example, people from the Philippines, India, Bangladesh, Ghana and Iran, are more concentrated in their settlement patterns.

According to data from the 2013 General Social Survey on Social Identity, residents of peripheral municipalities are less likely than their counterparts in central municipalities to have personal networks of more than 15 people.

With respect to the ethnic composition of friendship ties, 30% of the population with an immigrant background living in a peripheral municipality estimate that at least half of the friends with whom they had contact in the last month belong to an ethnic group visibly different from theirs. This compares with 37% of the population with an immigrant background in central municipalities.

Regardless of their place of residence, approximately one-third of the population with an immigrant background reported knowing all or most of their neighbours. The percentage of residents who exchanged favours with

one of their neighbours in the last month was lower in neighbourhoods where the population with an immigrant background was "highly concentrated" (more than 70%) than in neighbourhoods with a lower concentration (less than 50%). These differences disappear when the influence of other factors, such as length of residence in the neighbourhood and other socioeconomic characteristics, is taken into account.

Residents in neighbourhoods where the population with an immigrant background represents a majority are more likely to belong to an immigrant or ethnic organization than residents in neighbourhoods where the percentage of the population with an immigrant background is less than 50% (7.7% versus 4.2%).

A large majority of immigrants and second-generation individuals reported feeling a very strong or somewhat strong sense of belonging to Canada, their province, their town or city and their local community. Of the factors that can strengthen the sense of belonging expressed for any of these places of residence, residential characteristics, such as the type of municipality and the degree of concentration, were in general not statistically significant.

Introduction

Whether for job-related or economic reasons, to reunite with family members or to flee a war, thousands of people come every year to settle in Canada. Regardless of the context, moving to a new country involves a number of residential and social changes and transitions. In addition to moving into a new dwelling and neighbourhood, immigrants and their children redefine their points of reference and rebuild their personal networks upon their arrival and throughout their life.

From a residential standpoint, it is well known that dense, highly urbanized population centres are home to the majority of immigrants. According to data from the 2011 National Household Survey (NHS), of the 6.8 million immigrants in Canada, 63.4% were living in one of Canada's three largest metropolitan areas, namely Montréal, Toronto and Vancouver (Statistics Canada 2013a). Although the urban dimension of immigration is nothing new and is a historically strong trend in North America during the last few decades, in the United States, and more recently, in Canada, an increase in the regional and intrametropolitan dispersion of recent immigrants has given rise to the emergence of "new gateways" in some provinces and in the periphery of metropolitan areas (Singer 2004; Li 1998; Hiebert 2015; Alba et al. 1999). Moreover, this intrametropolitan dispersion occurs according to the location and the degree of concentration of the population with an immigrant background. On that point, note the emergence of "ethnoburbs" on the edges of central municipalities (census subdivisions) (Hiebert 2015; Murdie and Ghosh 2010; Li 1998).

In a context where the settlement patterns of the population with an immigrant background can take different forms, one may wonder not only about recent trends in Canadian metropolitan areas, but also about the role of residential characteristics in social integration, that is, the social links and relationships developed in Canada. In that regard, family and friendship ties, relationships with neighbours, social participation and civic engagement, as well as a sense of belonging to the place of residence and communities in Canada, provide important information on the social experiences of immigrants and their second-generation descendants in the environment where they settle. Various studies have shown that the quality of links developed in Canada and the support that recent immigrants may receive in their immediate surroundings are important for their integration and for countering the risks of isolation and of economic, social and spatial discrimination (Franke 2005; Cadge and Ecklund 2007; Hirschman 2004; Thomas 2011, 2012).

This study has two principal objectives. The first is to present recent trends from 2001 to 2011 in the settlement patterns of the population with an immigrant background in the three biggest Canadian census metropolitan areas (CMAs), Montréal, Toronto and Vancouver. The second objective is to examine the characteristics of the patterns of settlement according to certain components of the social integration of immigrants and the second generation. The report is divided into four parts.

The first part briefly reviews American and Canadian studies of settlement patterns and their significance in terms of social integration. To that end, two perspectives are presented: that of the spatial assimilation model and that of Canadian studies on what is often called the new social geography. The concept of social integration itself is then discussed.

The second part is devoted to describing data sources, the populations studied and the terminology used.

The third part uses 2011 NHS data and data from the 2006 and 2001 Canadian censuses to examine three recent trends that characterize the settlement patterns of the immigrant population: (1) its regional dispersion; (2) its intrametropolitan dispersion (or suburbanization); and (3) its level of spatial concentration measured at the neighbourhood level (census tract) in the central and peripheral municipalities of the three largest Canadian metropolitan areas, Montréal, Toronto and Vancouver.

In light of these trends, the fourth part of this report examines the extent to which the settlement pattern characteristics favour or hinder the social integration of immigrants and their second-generation descendants. In particular, it tries to answer the following question: to what extent do the characteristics of settlement patterns, measured by the geographic location of the place of residence (centre or periphery) and the demographic weight of the population with an immigrant background in the neighbourhood, overlap with "setting down one's roots"?

This question will be examined using data from the 2013 General Social Survey (GSS) on Social Identity. Logistic regression models are used to analyze the characteristics of settlement patterns and other socioeconomic factors according to four sets of social integration indicators: (A) characteristics of personal networks developed in Canada; (B) relationships with neighbours; (C) volunteering and civic engagement; and (D) the sense of belonging to the place of residence and with people sharing common characteristics, such as country of origin, ethnicity or culture, and mother tongue.

Part 1. Patterns of settlement and social integration

The study of settlement patterns, particularly with respect to the formation of so-called "ethnic" neighbourhoods and the degree of concentration and dispersion of populations with an immigrant background, has been attracting the interest of American sociologists and geographers for decades. Indeed, this topic is important because it raises issues associated with "residential segregation," such as marginalization; exclusion; economic, social and residential discrimination; and problems related to poverty and crime (Duncan 1957; Massey 1985; Massey and Denton 1988b). This part of the report deals with the theory of spatial assimilation and some of the studies that have been done as part of Canada's "new social geography."

1.1. Theory of spatial assimilation and the new social geography

The theory of spatial assimilation is part of the school of thought and the tradition of the Chicago School and was taken up by urban ecology (Alba and Logan 1991). The work of the Chicago School had for a long time argued that population groups succeed and replace one another following the same logic as the plant world (Burgess 1925; Park 1926). This model was then used to study the formation of various minority groups at the neighbourhood level, and this gave rise to the concept of the "ethnic enclave." Ethnic enclaves are defined as residential areas where minority groups, composed mainly of recent immigrants, settle upon arrival in some neighbourhoods because of limited economic resources and the existence of affordable housing and a certain "cultural comfort" (Alba and Logan 1991; Alba and coll. 1999).

There are two categories of enclaves: (A) so-called "traditional" enclaves, defined as marginalized areas often characterized by problems of poverty and crime; and (B) enclaves characterized by a high concentration of a single ethnic group whose financial resources are sufficient to choose better-quality housing (Massey and Denton 1988b; Massey 1985, Alba et al. 1999). This type of enclave is also known as an "ethnic community" and is often described as comprising places of mutual assistance and social engagement. Some ethnic communities have services that are provided or tailored to the members of the community (e.g., immigrant and ethnic associations, health services, child care services, and real estate and travel services) and ethnic economies in various fields, such as construction, personal services, restaurants and food. Regardless of the type, the ethnic enclaves described in the work of the Chicago School generally have the following in common: they have a high concentration of populations whose cultural traits differ from those of the majority group, they have economic resources that are more limited, they are located in the central municipality neighbourhoods of metropolitan areas, which are transition areas in the ensuing process of spatial dispersion and social integration.

The theory of spatial assimilation is based on the idea that the acquisition of a high socioeconomic status and level of acculturation[1] is usually followed by residential mobility that occurs outside enclaves and that results in the increased spatial dispersion of places of residence. This dispersion generally occurs in the peripheral neighbourhoods where the majority population lives and whose socioeconomic status is generally higher. Under this model, the geographic dispersion of minority groups in peripheral areas is an intermediate step that leads to "social integration." Since they are dispersed and outside the enclaves, minority groups have greater exposure to the rest of the population and are therefore more likely to mix with it, make contacts, and form unions and marriages with the majority group and thus integrate into it (Alba et al. 1999). The spatial assimilation model mainly refers to the residential and economic patterns of immigrants to the United States, particularly those who came in the European waves before the 1980s. When they arrived, these populations generally had a lower socioeconomic status and mostly had jobs in manufacturing. They initially settled in central neighbourhoods in cities, the enclaves, and then migrated outside their ethnic community to blend in with the majority group, usually in peripheral areas. This mobility is achieved only after a relatively high socioeconomic status has been attained, and this may take a number of years or even more than a generation.

Unlike earlier waves of immigration from Europe, immigrants in recent waves have the following in common: they have a higher level of education, they are employed in skilled jobs and they speak the language of the host country (Alba et al. 1999). According to the hypothesis of the spatial assimilation theory, upon arrival they would have economic and cultural resources that would promote their dispersion and settlement outside ethnic enclaves.

1. In spatial assimilation studies, acculturation is most often measured by the level of knowledge and use of the host country's official language and by the adoption of the host country's mores and customs (Alba and Nee 1997).

Immigrants in recent waves would therefore, according to the logic of the spatial assimilation model, be more likely to own property, to be more dispersed throughout the territory, and, therefore, to have more exposure to the majority group and to integrate more rapidly into it (Massey 1985; Alba et al. 1999; Alba and Nee 1997).

In the current context of Canadian metropolitan areas, the settlement patterns of recent immigrant groups and immigrant groups that have been established for many years, or even generations, have not necessarily followed a model of dispersion into more remote neighbourhoods of the central municipality. In fact, the settlement of immigrants in the waves of the last 30 years has instead resulted in a concentration of certain groups in peripheral neighbourhoods (Hiebert 2000, 2015; Li 1998). Therefore, residential mobility toward peripheral neighbourhoods has not resulted in dispersion, but rather the emergence of new "ethnic" concentrations (Li 1998; Hiebert 2000; Teixeira 2015). This situation has been the topic of research and debates[2] that have challenged the spatial assimilation model, particularly the role of ethnic enclaves in the social integration of immigrants in Canadian cities (Hiebert 2000, 2015; Murdie and Ghosh 2010).

Current research in the Canadian context criticizes the spatial assimilation model for being inadequate, among other things, because economic, demographic and cultural diversity exists in peripheral neighbourhoods and because there are enclaves throughout Canada's major urban centres (Hiebert 2000, 2015). Various studies have nuanced the negative effects attributed to ethnic enclaves in studies supporting the spatial assimilation theory (Teixeira 2015; Kataure and Walton-Roberts 2015; Murdie and Ghosh 2010). Enclaves are not necessarily synonymous with poverty and exclusion. Living in an economically and culturally diversified enclave may be beneficial and conducive to the development of extensive social capital, which would foster better economic and social integration (Hiebert 2015; Li 1998). In addition, various research projects have shown how personal and family networks influence the choice of a place of residence (Boyd 1989; Kataure and Walton-Roberts 2015; Teixeira 2015; Massey and Aysa-Lastra 2011). When they can, immigrant families tend to settle in the same neighbourhoods.[3]

In this context, social integration may instead vary according to ties established within or outside enclaves and individual characteristics such as income or family structure, rather than geographical dispersion in peripheral neighbourhoods, as suggested by the spatial assimilation model.

1.2 The concept of social integration

The spatial assimilation theory and the more recent studies cited above suggest that social integration involves previous economic integration and the development of social capital that is diversified and composed of ties with members of the majority group. Unlike economic integration (which is usually measured through income, labour market activity, occupation type and education level), social integration is not defined according to an exhaustive list of indicators, nor is it accurately measured using a generally agreed-upon approach. Therefore, the objective of this study is not to review the concept of social integration exhaustively, but rather to identify some of its characteristics and examine the extent to which recent urban settlement trends can shed light on the topic.

A seminal text in studies of integration (or assimilation, in the American tradition) is the study by Gordon (1964). Gordon identifies seven processes that he equates to as many types or stages of integration. He refers to cultural assimilation as the short- and medium-term adaptation of immigrants to common practices in the host country; this means, among other things, learning the country's language or languages and participating in the labour market.[4] Three other processes mentioned by Gordon are relevant here: (1) the development of social capital, particularly ties with the population of the host country; (2) mixed marriages (between an immigrant and a native-born citizen); and (3) the development of a sense of belonging to the host country (and, conversely, the retention of a sense of belonging to the country of origin).

More recently, Entzinger and Biezeveld (2003) identified four areas of integration, namely socioeconomic integration, cultural integration, political integration and the attitude of the host country (e.g., discrimination and the role of the media). This is not a sequential approach in which each step occurs in succession, leading to total integration,

2. For a complete review of Canadian studies that have debated the spatial assimilation theory, see Mendez (2008).
3. The results of data from the Longitudinal Survey of Immigrants to Canada also agree with the results of other studies on the influence of personal networks on settlement patterns: 41% of recent immigrants stated that the presence of a spouse, partner or family member was their reason for choosing the city in which they decided to settle, and 18% of immigrants mentioned the presence of friends (Schellenberg, 2004).
4. Gordon gives few details on what constitutes cultural assimilation.

as described by Gordon, but rather an approach in which various areas of integration can overlap without any one of them necessarily being a prerequisite for moving on to another.

A review of research dealing specifically with the concept of social integration shows that the definition of the concept varies greatly. Martinovic, van Tubergen and Maas (2009) define social integration as all the strong or weak social interactions of immigrants with native-born citizens. A similar approach is used by Wu, Schimmele and Hou (2010), who associate social integration with the "blending of groups," that is, the development of social interactions with the majority group, which the authors associate explicitly with Gordon's structural assimilation.[5] However, Kitchen, Williams and Gallina (2015) rely on a much broader definition (taken from Frideres [2008]), namely the process through which immigrants become an integral part of the social, cultural and institutional fabric of the host community without compromising or renouncing their cultural identity. The degree of social integration depends also on the fact that social ties are developed with members of the same group, with the local population or with both, and social integration increases only if the quantity and quality of social ties with the local population increase. Wu, Schimmele and Hou (2010), as well as Kitchen, Williams and Gallina (2015), measure this social integration using a proxy, the sense of belonging to the community.

Given these studies, two key characteristics of social integration can be identified. On the one hand, social integration is a concept consisting of a number of non-mutually exclusive dimensions. On the other hand, the studies agree that social integration depends largely on the interaction and social ties developed with the members of the host society. In addition to these ties, the intensity of the sense of belonging appears in other studies to be a measure that somewhat captures the outcome of social integration, as suggested by Wu, Schimmele and Hou (2010). For the purposes of this study, social ties may exist in various forms, such as having friends and acquaintances in the host country, having relationships with neighbours and engaging in community activities (e.g., volunteering and participating in a neighbourhood organization or immigrant association). In addition to these ties, there is the sense of belonging to the place of residence and with people sharing common characteristics, such as country of birth for immigrants, ethnic group or mother tongue.

Social ties and the sense of belonging may therefore be considered indicators of social integration, since they provide information on the scope, diversity and quality of social relationships developed in the country. Analyses of social integration focus precisely on the dimensions of social ties developed in the country. The analyses in this report use data from the 2013 GSS to target four components of social integration grouped together into four subsets of indicators: (1) personal networks, (2) relationships with neighbours, (3) volunteering and civic engagement, and (4) the sense of belonging to the place of residence and with people who have the same cultural background or mother tongue.

5. However, the authors use the sense of belonging to Canada and the feeling of being out of place in Canada as indicators of social integration (or not). These two indicators may be linked to social capital, in that they appear to be the result of the successful development of social interaction with native-born citizens (here, more specifically, the "majority").

Part 2. Data source and study population

The results presented in this study come from the 2001 and 2006 Canadian censuses and the 2011 NHS on the one hand and, on the other hand, the 2013 GSS on Social Identity, which is a Statistics Canada survey of about 27,700 Canadians aged 15 years or older living in private households in the 10 provinces. For the first time, this survey oversampled the immigrant population, making it possible to analyze this population at a more detailed level. The analyses performed in this report with the GSS data are based on a sample of 3,320 people aged 15 years or older living in one of the Montréal, Toronto or Vancouver CMAs, representing 4.2 million Canadian immigrants and the second generation people with one parent born in Canada and one parent who is an immigrant are not included in the study population.[6]

It is well known that the length of time lived in a country and being born into an immigrant family in the host country affect economic and social integration (Boyd 1998; Picot 2008). In general, studies have shown that the second generation is better integrated economically than established and recent immigrants. As in other studies on the social integration of immigrants (Wu, Schimmele and Hou 2010), including the second generation in the study population, makes it possible to examine the effect of time on social integration not only in terms of the time lived in the country, but also from a generational perspective. Since they were born in the country, people in the second generation develop social ties and a sense of belonging in a hybrid context; this is a crucial feature for this study.

Even though people in the second generation can be distinguished from Canadian-born people with Canadian-born parents because of their unique experience, preliminary analyses have shown that, for most of the social integration indicators, the profile of the second-generation population was similar to that of other Canadian-born people (the third generation or higher). In fact, this is one of the reasons that people in the third generation or higher have not been included.[7]

2.1 Main concepts used in this study

Recent immigrants: In the Canadian census and the NHS, recent immigrants are those who obtained landed immigrant status in the five years preceding the survey (e.g., between 2006 and 2011 for the 2011 NHS). In the 2013 GSS, very few respondents had obtained immigrant status in 2012 or 2013. Therefore, recent immigrants in the GSS are designated as people having obtained landed immigrant status between 2006 and 2013.

Established immigrants: Established immigrants are those who obtained landed immigrant status in 2005 or earlier—more generally, those having lived in the country for more than five years.

Second generation: The second generation refers to people born in Canada with two foreign-born parents. The terms "second generation" and "people born in Canada of immigrant parents" are used interchangeably to refer to this group (see note 6 for more information).

Population with an immigrant background: The population with an immigrant background consists of recent immigrants, established immigrants and the second generation. These three groups make up the study population.

Census metropolitan area and areas of interest: A census metropolitan area (CMA) consists of one or more adjacent municipalities centred on a population centre (known as the core). A CMA must have a total population of at least 100,000, of which 50,000 or more live in the core. In this study, the boundaries of CMAs and their constituent municipalities are defined according to the 2011 boundaries.

Census subdivision (CSD): Census subdivision is the general term for municipalities (as determined by provincial/territorial legislation) or areas treated as municipal equivalents for statistical purposes (e.g., Indian reserves, Indian settlements and unorganized territories).

6. The selection of people who have landed immigrant status and people born in Canada with parents born outside Canada means that groups are more homogeneous from the standpoint of immigration.
7. In addition, other studies on the social capital trends of the overall Canadian population have made a few comparisons between native-born Canadians and immigrants. For more information, see Turcotte (2015) and Sinha (2014).

Central municipalities and peripheral municipalities: The central municipality, (or census subdivision), is the one after which a CMA is named. In this study, the respective central municipalities of Toronto and Vancouver CMAs are the census subdivisions (CSD) of Toronto and Vancouver. For the Montréal CMA, the municipalities of Montréal, Montréal-Est, Montréal-Ouest, Westmount, Côte-Saint-Luc, Hampstead and Mont-Royal have been grouped together to form the central municipality, for spatial continuity.

The term "peripheral municipality" refers to any non-central municipality (or census subdivision) that is part of the metropolitan area (in other sources these are sometimes called suburban municipalities, surrounding municipalities or suburban rings).[8]

In this study, the **suburbanization** of immigrants referred to the upward trend of immigrant's settlement in certain medium-size peripheral municipalities.

Suburbanization rate: Percentage of immigrant population living in a peripheral municipality in the census metropolitan areas

Neighbourhoods: The boundaries of neighbourhood may vary by different social or analytical perspective. In this study the term neighbourhood corresponds to census tracts (CT). CTs are small and relatively stable areas. CTs usually have a population between 2,500 and 8,000 persons. They are located in census metropolitan areas and in census agglomerations that have a core population of 50,000 or more.

8. For measures of the centre–periphery contrast using Canadian censuses, see Turcotte (2008). With regard to the boundary criteria categorization proposed by Turcotte, this study follows an administrative boundary approach (a CMA and its municipalities) rather than a definition on the basis of distance from the central city or neighbourhood density. The "administrative" approach is easy to set up, and it facilitates historical comparisons. In addition, this approach is used in other analytical studies of trends in immigrant settlement patterns (Singer 2004). However, measuring the centre–periphery contrast using administrative boundaries has several limitations. One such limitation is that it can provide "an inaccurate picture of the forms of urban development in a CMA" (Singer 2004, 3), and this calls into question the very meaning of the centre–periphery contrast for studying certain social and demographic differences.

Part 3. Settlement patterns from 2001 to 2011

This part presents three trends that characterize the settlement patterns of immigrants from 2001 to 2011: (1) the recent change in the national distribution of immigrants at the provincial and metropolitan levels; (2) the suburbanization of immigrants in the three CMAs of Montréal, Toronto and Vancouver; and (3) the urban concentration of immigrants in these three CMAs in 2011, from a centre-versus-peripheral-area perspective. Examining these trends will make it possible to revisit the distinction between central municipality and peripheral municipality and the role of spatial concentration in analyzing the components of the social integration of immigrant groups in urban areas.

3.1 Metropolitan distribution of immigrants

In 2011 Canada had 6.8 million immigrants, 63.4% of whom had chosen to live in one of Canada's three largest CMAs, namely Montréal (12.5%), Toronto (37.5%) or Vancouver (13.5%). Despite this concentration in three CMAs, since the early 2000s there has been a dispersion in the distribution of immigrants across provinces and CMAs.

Provincially, this dispersion is attributable to changes in selection programs that especially affect immigrants arriving in Canada through the Provincial Nominee Program (PNP) and changes in immigrant source countries (Bonikowska, Hou and Picot 2015). The PNP enables provincial governments and the federal government to select immigrants to meet specific demographic and economic needs, and this rebalances the distribution of immigrants in Canada. The PNP has therefore helped to increase the number of new immigrants in Saskatchewan, Manitoba (mainly Winnipeg) and Alberta (outside Calgary and Edmonton), which are provinces that generally receive fewer immigrants than Ontario or British Columbia. The study by Bonikowska, Hou and Picot (2015) also demonstrated that changes in the geographic origin of immigrants are another factor contributing to decreased immigration to Toronto and increased immigration to Montréal.

At the metropolitan level, which is the focus of this report, the number of immigrants has increased in all CMAs with a total population of 200,000 or more in 2011. As shown in Table 1, CMAs such as Québec, Calgary, Edmonton, Saskatoon and Halifax have seen greater increases in the size and share of the immigrant population than Toronto, Vancouver and other metropolitan areas in southern Ontario such as Hamilton, London and Windsor. The Toronto CMA recorded absolute growth of slightly more than 507,000 immigrants in 10 years, for a growth rate of 20.0%, which was similar to the rate in Vancouver (19.2%). In comparison, the growth rate of the immigrant population was 26.6% in the Montréal CMA, 37.2% in the Calgary CMA, 29.0% in the Edmonton CMA and 21.6% in the Ottawa–Gatineau CMA.

As for the distribution of immigrants among CMAs, there was a decrease in the relative shares of CMAs in Ontario and British Columbia. Specifically, the relative share of the total immigrant population in CMAs in Ontario (except Ottawa–Gatineau) remained stable or decreased slightly between 2001 and 2011, while that in the other CMAs increased. For example, the percentage of Canada's immigrant population that settled in Toronto went from 37.3% in 2001 to 37.5% in 2011. In Vancouver the percentage went from 13.6% to 13.5% in the same period, while in Calgary it went from 3.6% to 4.6%.

Table 1
Number and percentage of immigrant population by census metropolitan areas with over 200,000 inhabitants, 2001 to 2011

	Census year									
	2001	2006	2011	2001 to 2011	2001	2006	2011	2001	2006	2011
Census metropolitan area	thousands			percentage growth rate	percentage of total Canadian population (%)			percentage in census metropolitan area		
Canada	5,436.6	6,166.8	6,775.8	19.8	100.0	100.0	100.0	18.4	19.8	20.6
Halifax	24.3	27.3	31.3	22.4	0.4	0.4	0.5	6.8	7.4	8.1
Québec	19.5	25.9	32.9	40.9	0.4	0.4	0.5	2.9	3.7	4.4
Montréal	621.0	738.8	846.6	26.6	11.4	12.0	12.5	18.3	20.7	22.6
Ottawa – Gatineau	184.5	202.0	235.3	21.6	3.4	3.3	3.5	17.5	18.2	19.4
Oshawa	46.0	53.7	56.2	18.1	0.8	0.9	0.8	15.7	16.4	16.0
Toronto	2,030.2	2,316.4	2,537.4	20.0	37.3	37.6	37.5	43.8	45.8	46.0
Hamilton	154.5	166.0	166.8	7.4	2.8	2.7	2.5	23.6	24.4	23.5
St. Catharines – Niagara	65.7	69.8	64.4	-1.9	1.2	1.1	1.0	17.8	18.2	16.8
Kitchener – Cambridge – Waterloo	90.4	102.6	108.7	16.8	1.7	1.7	1.6	22.1	23.1	23.1
London	80.6	87.1	87.7	8.1	1.5	1.4	1.3	18.8	19.3	18.8
Windsor	67.8	74.6	70.3	3.6	1.2	1.2	1.0	22.3	23.3	22.3
Winnipeg	109.4	120.9	147.3	25.8	2.0	2.0	2.2	16.5	17.7	20.6
Regina	14.0	14.7	21.7	35.6	0.3	0.2	0.3	7.4	7.6	10.5
Saskatoon	16.8	17.8	27.4	38.5	0.3	0.3	0.4	7.6	7.7	10.7
Calgary	197.2	252.3	313.9	37.2	3.6	4.1	4.6	20.9	23.6	26.2
Edmonton	164.9	189.2	232.2	29.0	3.0	3.1	3.4	17.8	18.5	20.4
Vancouver	737.5	829.9	913.3	19.2	13.6	13.5	13.5	37.6	39.7	40.0
Victoria	57.4	61.3	60.1	4.5	1.1	1.0	0.9	18.8	19.1	17.9
Other census metropolitan areas and census agglomeraions	459.2	506.4	523.1	12.2	8.4	8.2	7.7	7.7	8.2	8.0
Outside census metropolitan areas and census agglomerations	295.6	310.3	299.3	1.2	5.4	5.0	4.4	5.1	5.3	5.1

Source: Statistics Canada, National Household Survey, 2011, and Census of Population, 2006 and 2001.

Like the provincial-level results, the trends are even more marked for recent immigrants (Table 2). The Toronto and Vancouver CMAs are the only two CMAs (aside from Windsor) in which the number of recent immigrants decreased. Specifically, in Toronto the number of recent immigrants went down by 33,000 between 2001 and 2011, an 8.7% decrease. For the Vancouver CMA, the decrease was 9.1% over the same period. Conversely, the Montréal, Calgary, Edmonton and Ottawa–Gatineau CMAs recorded increases of 39.9%, 48.6%, 58% and 6%, respectively.

Table 2
Number and percentage of recent immigrant population by census metropolitan areas with over 200,000 inhabitants, 2001 to 2011

	Census year									
	2001	2006	2011	2001 to 2011	2001	2006	2011	2001	2006	2011
Census metropolitan area	thousands			percentage growth rate	percentage of total Canadian population (%)			percentage in census metropolitan area		
Canada	960.7	1,107.3	1,162.9	17.4	100.0	100.0	100.0	3.3	3.6	3.5
Halifax	4.4	5.0	8.3	46.7	0.5	0.5	0.7	1.2	1.4	2.2
Québec	5.2	8.3	10.7	51.5	0.5	0.7	0.9	0.8	1.2	1.4
Montréal	113.9	164.9	189.7	39.9	11.9	14.9	16.3	3.4	4.6	5.1
Ottawa – Gatineau	38.0	34.9	40.4	6.0	4.0	3.2	3.5	3.6	3.1	3.3
Oshawa	2.9	4.1	4.1	28.5	0.3	0.4	0.4	1.0	1.3	1.2
Toronto	414.8	447.4	381.7	-8.7	43.2	40.4	32.8	8.9	8.8	6.9
Hamilton	18.7	20.7	18.8	0.8	1.9	1.9	1.6	2.9	3.0	2.7
St. Catharines – Niagara	5.4	7.6	5.6	3.3	0.6	0.7	0.5	1.5	2.0	1.5
Kitchener – Cambridge – Waterloo	14.1	16.8	15.2	7.0	1.5	1.5	1.3	3.5	3.8	3.2
London	10.1	13.0	11.9	15.4	1.0	1.2	1.0	2.3	2.9	2.5
Windsor	14.7	13.8	9.2	-59.5	1.5	1.2	0.8	4.8	4.3	2.9
Winnipeg	13.4	24.1	45.3	70.5	1.4	2.2	3.9	2.0	3.5	6.3
Regina	1.8	2.6	8.1	78.1	0.2	0.2	0.7	0.9	1.4	3.9
Saskatoon	3.2	3.4	11.5	72.6	0.3	0.3	1.0	1.4	1.5	4.5
Calgary	36.3	57.9	70.7	48.6	3.8	5.2	6.1	3.9	5.4	5.9
Edmonton	21.0	31.8	49.9	58.0	2.2	2.9	4.3	2.3	3.1	4.4
Vancouver	169.2	151.5	155.1	-9.1	17.6	13.7	13.3	8.6	7.2	6.8
Victoria	4.7	5.9	6.4	26.4	0.5	0.5	0.6	1.5	1.8	1.9

Table 2 (end)
Number and percentage of recent immigrant population by census metropolitan areas with over 200,000 inhabitants, 2001 to 2011

	Census year								
	2001	2006	2011	2001 to 2011	2001	2006	2011	2001	2006	2011
Census metropolitan area	thousands			percentage growth rate	percentage of total Canadian population (%)			percentage in census metropolitan area		
Other census metropolitan areas and census agglomeraions	43.0	62.6	82.8	48.1	4.5	5.7	7.1	0.7	1.0	1.3
Outside census metropolitan areas and census agglomerations	25.9	30.9	37.3	30.5	2.7	2.8	3.2	0.4	0.5	0.6

Source: Statistics Canada, National Household Survey, 2011, and Census of Population, 2006 and 2001.

3.2 Suburbanization of immigrants

While an increase in the national dispersion of the immigrant population is observed, the same is true at the metropolitan-area level. This phenomenon is referred to as the suburbanization of immigrants, and it translates into an increase in the immigrant population in certain medium-size peripheral municipalities at the expense of the more densely populated central municipalities that are the most traditional historical centres of settlement among immigrants. This trend is specific neither to Canada nor to the present. In the United States, the suburbanization of immigrant populations has been observed for a long time (Massey and Denton 1988b; Alba and Logan 1991; Alba et al. 1999; Singer 2004; Waters and Jiménez 2005). In Canada studies on Montréal, Toronto and Vancouver have shown that the suburbanization of immigrants has also existed for a long time and is part of the settlement pattern and urban dynamic of these three major centres (Ray 1998; Hiebert 1999; Germain, Rose and Richard 2012).

In this part, the suburbanization of immigrants is examined in Canada's three largest CMAs, namely Montréal, Toronto and Vancouver, which have the densest and oldest peripheral urban development.

Data from the NHS and Canadian censuses show that the suburbanization of the immigrant population in the Montréal, Toronto and Vancouver CMAs increased steadily between 2001 and 2011 (Table 3). In the Montréal CMA the proportion of immigrants living in a peripheral municipality went from 26.8% in 2001 to 32.8% in 2011. By comparison, in the Toronto CMA more than half the population (50.6%) was living in a peripheral municipality, up 10 percentage points from 2001 (40.3%). The rate of suburbanization in the Vancouver CMA rose from 66.4% to 71.6% during the same period.

Table 3
Percentage of immigrant population living in a peripheral municipality by census metropolitan areas, Montréal, Toronto and Vancouver, 2001 to 2011

	Total population (including non-immigrants)			Immigrant			Recent immigrant		
				census year					
	2001	2006	2011	2001	2006	2011	2001	2006	2011
Census metropolitan area	percentage								
Montréal	58.1	60.1	62.1	26.8	29.8	32.8	15.1	20.7	22.2
Toronto	53.2	55.8	56.5	40.3	46.7	50.6	32.5	40.2	43.3
Vancouver	76.6	76.1	76.4	66.4	68.6	71.6	68.7	71.3	72.7

Source: Statistics Canada, National Household Survey, 2011, and Census of Population, 2006 and 2001

These trends toward suburbanization translate into an increase in the percentage of the immigrant population in certain peripheral municipalities at the expense of central municipalities. Thus, for the municipalities that make up Canada's three largest CMAs, the percentage of immigrants in peripheral municipalities with a population greater than 40,000 increased more than that in the central municipality between 2001 and 2011. In the Montréal CMA the percentage of immigrants in the central municipality went from 27.6% to 33.4%, an increase of 5.8 percentage points in 10 years (Table 4). By comparison, the share of immigrants in the municipality of Laval went from 15.5% to 24.6%, an increase of 9.1 percentage points. With close to 25% of its population composed of immigrants, Laval is among the municipalities with the highest percentage of immigrants in the Montréal CMA. The municipalities of Brossard and

Dollard-Des-Ormeaux are the other municipalities with the largest proportions of immigrants in 2001, 2006 and 2011, varying from approximately 30% to 40%. In 2001 these two municipalities recorded proportions comparable to those of the central municipality, while in 2011 the proportions exceeded those of the municipality of Montréal, at 36.6% in Brossard and 39.5% in Dollard-Des-Ormeaux.

As in the Montréal CMA, the percentage of immigrants in the municipalities of the Toronto CMA increased between 2001 and 2011 and even exceeded that of the central municipality (Table 5). Immigrants made up more than half the total population of four peripheral municipalities of the Toronto CMA in 2011, a threshold not achieved by the central municipality (48.6%). These are Markham (57.9%), Richmond Hill (54.9%), Mississauga (52.9%) and Brampton (50.6%).

In the Vancouver CMA the percentage of immigrants in the central municipality (Vancouver) went from 45.9% in 2001 to 43.8% in 2011 (Table 6). This was the only municipality, aside from the North Vancouver district municipality, in which the share of the immigrant population decreased in 10 years. In 2011 Richmond was the municipality with the highest proportion of immigrants (59.6%), an increase of 5.6 percentage points from 2001. The municipality of Burnaby had the second-highest percentage of immigrants in 2011, namely 50.5%, compared with 47.5% in 2001.

Three peripheral municipalities had a percentage of immigrants similar to that of Vancouver in 2011. They are Coquitlam (41.7%), West Vancouver (40.7%) and Surrey (40.5%). Compared with 2001, Surrey had the greatest increase in the share of immigrants, from 33.2% in 2001.

There were also significant percentages of new immigrants in numerous peripheral municipalities of the Vancouver CMA—nearly 10% in Richmond, close to 9% in Burnaby and 8.4% in the municipality of North Vancouver. This percentage was only 7.2% in the central municipality. In most of the municipalities in the Vancouver CMA, the percentage of recent immigrants decreased or remained relatively stable between 2001 and 2011.

In the Montréal CMA the percentage of recent immigrants in the central municipality went from 6.0% in 2001 to 8.8% in 2011, the greatest percentage-point increase, compared with the surrounding municipalities in this CMA. Of the peripheral municipalities, Longueuil, Brossard and Laval had the greatest increases in the percentage of recent immigrants. Contrary to what was observed in the Montréal CMA, the percentage of recent immigrants in the entire Toronto CMA and in its municipalities decreased steadily. The percentage of recent immigrants went from 11.4% in 2001 to 8.4% in 2011 in the central municipality of the Toronto CMA. The percentage also decreased in the municipalities of Richmond Hill and Markham over the same period, from close to 10% in 2001 to less than 7% in 2011. Similar decreases were observed in the Vancouver CMA: the percentage of recent immigrants in Richmond, Burnaby and Coquitlam decreased by 4 to 5 percentage points between 2001 and 2011.

Table 4
Percentage of total and recent immigrants in the census metropolitan area of Montréal by municipality (census subdivision) with over 40,000 inhabitants, 2001 to 2011

	Total population	Immigrant			Recent immigrant		
		census year					
	2011	2001	2006	2011	2001	2006	2011
Municipality	thousands	percentage					
Brossard	78.8	27.9	33.4	36.6	3.3	5.3	5.4
Boucherville	40.1	4.1	4.8	5.6	0.4	1.0	0.7
Longueuil	228.0	9.1	12.7	14.7	1.4	3.4	3.9
Repentigny	81.4	2.3	4.0	6.7	0.1	0.6	1.1
Terrebonne	105.6	2.6	4.0	6.5	0.2	0.5	0.9
Mascouche	41.9	2.2	3.1	3.5	0.2	0.4	0.4
Laval	392.7	15.5	20.2	24.6	1.2	2.5	3.4
Montréal	**1,612.6**	**27.6**	**30.8**	**33.4**	**6.0**	**7.9**	**8.8**
Dollard-des-Ormeaux	49.1	34.6	37.1	39.5	3.6	4.2	3.9
Châteauguay	45.2	8.1	10.0	13.7	0.5	0.8	1.8
St-Eustache	43.5	2.9	3.2	4.9	0.2	0.8	0.5
Blainville	53.1	4.2	5.4	6.4	0.5	0.9	0.7
Mirabel	41.6	2.3	2.2	2.5	0.3	0.4	0.3
St-Jérôme	66.5	2.0	2.8	3.0	0.4	1.0	0.9

Source: Statistics Canada, National Household Survey, 2011, and Census of Population, 2006 and 2001.

Table 5
Percentage of total and recent immigrants in the census metropolitan area of Toronto by muncipality (census subdivisions) with over 40,000 inhabitants, 2001 to 2011

	Total population	Immigrant			Recent immigrant		
		census year					
	2011	2001	2006	2011	2001	2006	2011
Municipality	thousands	percentage					
Pickering	87.9	29.0	30.2	31.2	2.2	2.6	1.8
Ajax	109.2	25.2	30.7	34.2	1.9	3.5	2.8
Vaughan	286.3	41.9	45.0	46.4	4.4	4.7	4.2
Markham	300.1	52.9	56.5	57.9	9.5	7.2	6.1
Richmond Hill	184.4	48.3	51.6	54.9	9.9	7.6	6.9
Aurora	52.4	18.1	22.4	26.4	2.3	2.7	2.4
Newmarket	78.9	18.8	22.0	23.8	1.5	2.7	2.4
Georgina	42.9	11.4	11.8	10.9	0.9	0.8	0.7
Toronto	**2,576.0**	**49.5**	**50.1**	**48.6**	**11.4**	**10.8**	**8.4**
Mississauga	708.7	46.8	51.6	52.9	9.8	11.3	8.4
Brampton	521.3	39.9	47.8	50.6	6.4	9.9	7.8
Oakville	59.0	19.6	20.8	20.8	0.7	0.9	0.7
Caledon	180.4	27.6	30.6	32.0	3.5	4.2	4.0
Milton	83.6	16.0	24.4	29.6	0.9	3.4	3.8
Halton Hills	58.0	15.4	15.2	14.4	1.0	0.8	0.7

Source: Statistics Canada, National Household Survey, 2011, and Census of Population, 2006 and 2001.

Table 6
Percentage of recent and total immigrants in the census metropolitan area of Vancouver by municipalities (census subdivisions) with over 40,000 inhabitants, 2001 to 2011

	Total population	Immigrant			Recent immigrant		
		census year					
	2011	2001	2006	2011	2001	2006	2011
Municipality	thousands	percentage					
Langley, DM	103.1	15.5	17.1	18.0	2.0	2.5	2.1
Surrey	463.3	33.2	38.3	40.5	6.9	7.5	7.5
Delta	98.7	26.8	28.2	28.9	4.1	3.8	3.4
Richmond	189.3	54.0	57.4	59.6	14.6	10.8	9.9
Vancouver	**590.2**	**45.9**	**45.7**	**43.8**	**9.8**	**7.6**	**7.2**
Burnaby	220.3	47.5	50.9	50.5	13.7	10.8	8.9
New Westminster	65.1	28.4	31.8	33.4	6.5	7.4	7.0
Coquitlam	125.0	37.1	39.4	41.7	11.5	7.9	6.7
Port Coquitlam	55.8	26.4	28.3	29.4	4.9	3.9	4.5
North Vancouver, DM	83.6	30.3	31.7	29.9	6.5	5.0	4.1
North Vancouver, CY	47.7	34.2	36.5	37.2	9.1	7.7	8.4
West Vancouver	42.0	36.2	37.1	40.7	6.0	5.5	7.1
Maple Ridge	75.1	16.6	17.2	17.2	1.7	2.1	1.8

Source: Statistics Canada, National Household Survey, 2011, and Census of Population, 2006 and 2001.

The time dimension of settlement patterns

A classic assumption of the spatial assimilation theory is that the dispersion of immigrant groups in the metropolitan space does not reach its full extent until generations later, because of the time it may take to acquire a socioeconomic status that enables property ownership and the move to neighbourhoods outside the enclaves, usually in peripheral areas (Alba et al. 1999). The example of Vancouver, where both recent immigrants and immigrants who have lived in Canada for more than five years settle mainly in the neighbourhoods of peripheral municipalities, shows that this assumption may no longer apply to recent immigrants, or that the concepts of suburbs (peripheral areas)

and suburbanization no longer have the same meaning (Alba and Nee 1997; Hiebert 2000). In addition, a number of neighbourhoods in the central municipality have a higher socioeconomic status than those in peripheral municipalities; this redefines the context and mechanisms underlying the settlement patterns in neighbourhoods in central municipalities.[9]

To capture the time dimension of suburbanization, five groups that represent time in Canada and generational time are identified. The five groups are, on the one hand, (a) recent immigrants and (b) established immigrants, and, on the other hand, (c) second-generation native-born Canadians (two foreign-born parents), (d) mixed- or 2.5-generation native-born Canadians (one foreign-born parent and one Canadian-born parent), and (e) third- or higher-generation Canadians (both parents born in Canada). The analysis examines people aged 15 years or older in 2001, 2006 and 2011.[10]

The three CMAs present a different profile depending on the generation being considered (Table 7). The Montréal CMA is the most distinctive of the three. It is also the one that seems to align most closely with the theory of spatial assimilation in terms of time in the country and generational time as factors of settlement in peripheral neighbourhoods. The example of the Montréal CMA shows, on the one hand, that for each of the five groups, the rates of suburbanization increase in each census year, especially for recent immigrants. The percentage of recent immigrants living in a peripheral municipality went from 13.4% in 2001 to 18.9% in 2006 and 21.3% in 2011. On the other hand, the rate of suburbanization of people aged 15 years or older increases from one group to the next according to a "seniority" gradient, with the lowest rates for recent immigrants and the highest for the third generation, with a significant gap between the gradient's two extremes. The gradient is repeated in each of the three census years, and rates advance from one census year to the next. In 2011 the gap between the rate for recent immigrants and the rate for the third generation or higher was 45 percentage points, which was lower, however, than in 2001 (a 47-point gap). This appears to reflect different settlement patterns, since some recent immigrants settle directly in the peripheral areas.

The effect of historical time combined with the effect of generational time on the rate of suburbanization is less marked in Toronto and Vancouver than in Montréal. In Vancouver the rates of suburbanization are higher than in Montréal and Toronto for all groups, and the differences are less significant between groups (from 72% to 78% in 2011). In Toronto, not counting recent immigrants, the four other groups had similar rates of suburbanization varying between 52% and 56% in 2011.

Table 7
Percentage of population of census metropolitan areas aged 15 years and older living in an peripheral municipality, census metropolitan areas of Montréal, Toronto and Vancouver, 2001 to 2011

	Montréal			Toronto			Vancouver		
	census year								
	2001	2006	2011	2001	2006	2011	2001	2006	2011
Population	percentage								
Recent immigrant	13.4	18.9	21.3	31.9	39.6	42.5	67.6	70.2	71.6
Established immigrant	29.3	32.3	35.6	42.3	48.1	51.8	65.5	67.8	71.2
Second generation	33.1	36.2	40.0	48.9	52.6	54.3	70.3	69.6	70.1
Mixed generation	46.2	47.4	49.2	51.1	52.8	52.8	75.7	75.4	75.0
Third or higher generation	60.5	63.2	65.8	54.4	56.2	56.0	77.4	77.3	77.6

Source: Statistics Canada, National Household Survey, 2011, and Census of Population, 2006 and 2001.

9. For example, according to the 2011 NHS, the average value of a detached house in the city of Vancouver was $929,049, while in the city of Surrey, the peripheral municipality with the greatest increase in the share of the immigrant population between 2001 and 2011, the average value of a property was $544,819. In the cities of Montréal and Westmount, two central municipalities in the Montréal CMA, the average property value was $373,475 and $1.1 million, while in Laval, a peripheral municipality north of the city of Montréal the average price was $291,954. The average value of a detached house in some non-central municipalities is even greater than in the central municipality (e.g., Richmond Hill in the Toronto area and West Vancouver in the Vancouver area). The fact remains that, in general, property prices are substantially lower in peripheral cities than in central cities.
10. The questions on parents' place of birth from which the generation status is derived were not posed to the population under 15 years of age in 2001 and 2006.

3.3 Urban concentration of population with an immigrant background

The suburbanization trend observed since the early 2000s has been accompanied by the concentration of immigrants and the second generation in the neighbourhoods (census tracts) of the peripheral municipalities of metropolitan areas. The urban concentration of immigrants and the formation of ethnic neighbourhoods in major immigration cities have been observed in Europe, North America and Australia (Massey 1985). As will be seen below and as other studies have found, the concentration of the population with an immigrant background is not a characteristic that is unique to central municipalities—it is also present in surrounding municipalities (Hou 2004; Li 1998; Hiebert 2015).

This part of the report presents the spatial distribution of the population with an immigrant background in the Montréal, Toronto and Vancouver CMAs using the maps in figures 1, 2 and 3. It then examines concentration using the dissimilarity index.[11] The results are presented first by type of municipality of residence (centre or periphery) and then by place of birth of the immigrant (or of the mother for the second generation) for each of the Montréal, Toronto and Vancouver CMAs.

The distribution of the population with an immigrant background in the Montréal, Toronto and Vancouver CMAs[12] shows that this population is concentrated in pockets and that these pockets are situated not only in central municipalities, but also in peripheral municipalities (figures 1, 2 and 3; and tables 8, 9 and 10).

In the Montréal CMA the neighbourhoods on the island of Montréal with the highest degree of immigrant concentration are shown as grey and black areas on the map. The districts of Saint-Léonard, Saint-Laurent and Dollard-Des-Ormeaux and the areas immediately surrounding them are those with the highest degree of concentration. The map also indicates that the population with an immigrant background is less present in peripheral areas. Two areas outside the island of Montréal can be identified as having a proportion of people with an immigrant background that is somewhat similar to that of the island of Montréal: Laval on the one hand and Brossard, Saint-Lambert and Longueuil on the South Shore on the other hand. Aside from these, most of the municipalities that are part of the peripheral municipalities of Montréal have populations in which less than 15% of the people have an immigrant background (Table 8).

11. The dissimilarity index (D) is one of the most commonly used segregation indicators in the social sciences for measuring the concentration of a given population (Massey and Denton 1988a; McKibben and Faust 2004). The index varies between 0 and 1, where 0 indicates the absence of segregation and 1 indicates complete segregation. It measures the distribution of a group of interest by geographic unit (i.e., census tract, or CT) making up a municipality (census subdivision), relative to the distribution of a reference group. More intuitively, D represents the proportion of members of the group of interest that should change neighbourhoods (CTs) so as to be distributed in the same way as the reference group. For the calculations performed as part of these settlement-pattern analyses, the reference group consists of the population of all the groups (the total population of the CT) except for the group of interest itself. For example, in calculating D for the group of Italians in Montréal, the reference group is the total non-Italian population of Montréal. This index is used to present recent settlement trends of the population with an immigrant background in the three largest CMAs, namely Montréal, Toronto and Vancouver.
12. These three maps show the percentage of the population with an immigrant background in the total population by CT. This population includes all immigrants and their Canadian-born children, whether the latter are young or adults. The children of couples composed of one Canadian-born parent and one foreign-born parent (the mixed or 2.5 generation) are not included.

Figure 1
Percent of the population with an immigrant background, Montreal CMA, 2011

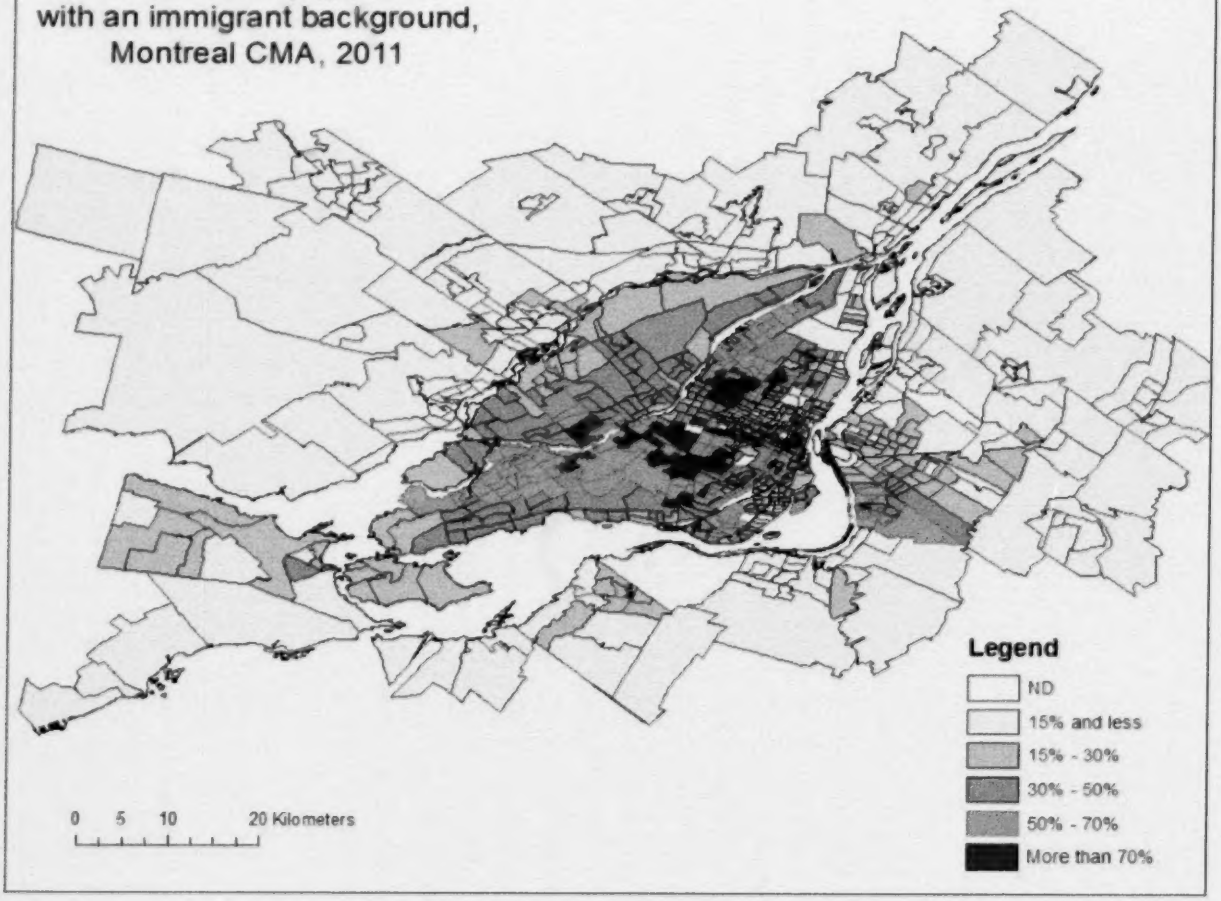


Table 8
Percentage of immigrants and second-generation individuals in the census metropolitan area of Montréal by municipalities (census subdivisions) with over 40,000 inhabitants, 2011

Municipality	Total population	Type of population		
		Immigrant (1)	Second generation (2)	Population with an immigrant background (1) + (2)
	thousands	percentage		
Census metropolitan area of Montréal	**3,752.5**	**22.6**	**9.7**	**32.3**
Brossard	78.8	36.6	13.9	50.5
Boucherville	40.1	5.6	2.4	8.0
Longueuil	228.0	14.7	5.0	19.7
Repentigny	81.4	6.7	3.0	9.8
Terrebonne	105.6	6.5	4.2	10.7
Mascouche	41.9	3.5	2.1	5.6
Laval	392.7	24.6	14.5	39.1
Montréal	**1,612.6**	**33.4**	**13.2**	**46.6**
Dollard-des-Ormeaux	49.1	39.5	20.5	60.0
Châteauguay	45.2	13.6	7.0	20.6
St-Eustache	43.5	4.9	2.3	7.2
Blainville	53.1	6.4	3.6	9.9
Mirabel	41.6	2.5	1.4	3.8
St-Jérôme	66.5	3.0	0.9	3.9

Source: Statistics Canada, National Household Survey, 2011.

In Toronto the CTs in which the majority of the population has an immigrant background form an arc that straddles the municipality of Toronto and the (immediately) neighbouring municipalities of Mississauga, Brampton, Vaughan, Richmond Hill and Markham. The percentages in these six municipalities vary between 70% and 80%, except for the municipality of Toronto, which has a percentage of 68% (Table 9). The areas of the CMA that have a smaller proportion of people with an immigrant background are those that are farthest from the central municipality. Of the municipalities with a population of 40,000 or greater in 2011, two have a percentage of population with an immigrant background lower than 30%, namely Georgina (19.3%) and Halton Hills (25.4%), while Newmarket and Caledon have percentages of 37.5% and 39.3%, respectively.

Figure 2
Percent of the population with an immigrant background, Toronto CMA, 2011

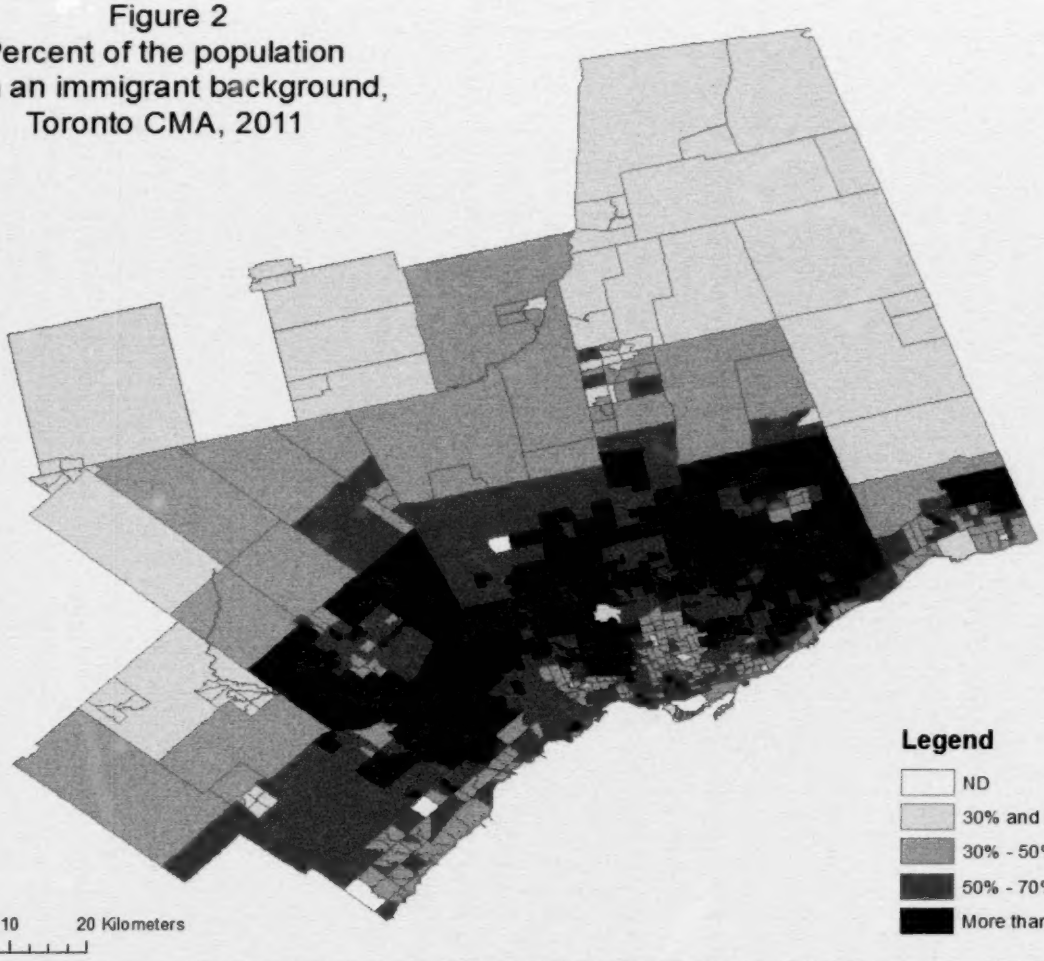


Table 9
Percentage of immigrants and second-generation individuals in the census metropolitan area of Toronto by municipalities (census subdivisions) with over 40,000 inhabitants, 2011

Municipality	Total population of municipality (including non-immigrants)	Type of Population		
		Immigrant (1)	Second generation (2)	Population with an immigrant background (1) + (2)
	thousands	percentage		
Census metropolitan area of Toronto	**5,521.2**	**46.0**	**20.0**	**66.0**
Pickering	87.9	31.2	19.2	50.4
Ajax	109.2	34.2	20.1	54.2
Vaughan	286.3	46.4	27.0	73.4
Markham	300.1	57.9	22.7	80.7
Richmond Hill	184.4	54.9	20.5	75.4
Aurora	52.4	26.4	14.6	40.9
Newmarket	78.9	23.8	13.8	37.6
Georgina	42.9	10.9	8.4	19.3
Toronto	**2,576.0**	**48.6**	**19.4**	**68.0**
Mississauga	708.7	52.9	20.5	73.4
Brampton	521.3	50.6	25.2	75.8
Caledon	59.0	20.8	18.5	39.3
Oakville	180.4	32.0	16.2	48.3
Milton	83.6	29.6	17.3	46.8
Halton Hills	57.9	14.4	10.9	25.4

Source: Statistics Canada, National Household Survey, 2011.

Like in Toronto, the majority of the population of the Vancouver CMA has an immigrant background (56%) (Table 10). The spatial distribution of this population is also similar to that in the Toronto CMA—it follows a large arc of CTs inhabited by populations composed mostly of people with an immigrant background. The arc extends from the municipality of Vancouver to Surrey, by way of Richmond and Burnaby. At least 50% of the population of these four peripheral census subdivisions, as well as Coquitlam, has an immigrant background.

However, the concentration of immigrants at the neighbourhood level appears to be lower in the Vancouver CMA than in Toronto, and still lower than in Montréal. This observation agrees with other studies of the residential segregation of ethnic groups and immigrants in major Canadian cities: by Balakrishnan (1976) with data from the 1951 and 1961 censuses; and by Ray (1998) and Balakrishnan and Hou (1999) with data from the 1981, 1986 and 1991 censuses.

Figure 3
Percent of the population with an immigrant background, Vancouver CMA, 2011

Table 10
Percentage of immigrants and second-generation individuals in the census metropolitan area of Vancouver by municipalities (census subdivisions) with over 40,000 inhabitants, 2011

Municipality	Total Population	Type of population: Immigrant (1)	Type of population: Second generation (2)	Type of population: Population with an immigrant background (1) + (2)
	thousands		percentage	
Census metropolitan area of Vancouver	**2,272.7**	**40.1**	**15.7**	**55.8**
Langley, DM	103.1	18.0	10.7	28.7
Surrey	463.3	40.5	18.9	59.5
Delta	98.7	28.9	14.9	43.8
Richmond	189.3	59.6	15.4	75.0
Vancouver	**590.2**	**43.8**	**17.0**	**60.8**
Burnaby	220.3	50.5	17.8	68.2
New Westminster	65.1	33.4	14.6	48.0
Coquitlam	125.0	41.7	13.7	55.3
Port Coquitlam	55.8	29.4	12.9	42.3

Table 10 (end)
Percentage of immigrants and second-generation individuals in the census metropolitan area of Vancouver by municipalities (census subdivisions) with over 40,000 inhabitants, 2011

		Type of population		
Municipality	Total Population	Immigrant (1)	Second generation (2)	Population with an immigrant background (1) + (2)
	thousands		percentage	
North Vancouver, DM	83.6	29.9	11.9	41.7
North Vancouver, CY	47.7	37.2	12.0	49.2
West Vancouver	42.0	40.7	11.4	52.2
Maple Ridge	75.1	17.2	9.9	27.1

Source: Statistics Canada, National Household Survey, 2011.

Centre and periphery concentration

As shown in figures 1, 2 and 3 and the accompanying tables, the concentration of the population with an immigrant background is not limited to the central municipality, but also characterizes peripheral municipalities. This section presents the results of two calculations of the dissimilarity index (D) on the basis of CTs in 2011: the first is an index of concentration of immigrants relative to native-born Canadians and the second is an index of dissimilarity of the population with an immigrant background relative to the population with at least one Canadian-born parent. Each index is calculated for the three CMAs of Montréal, Toronto and Vancouver, separately for the central municipality and peripheral municipalities.

The results in Table 11 show that residential concentration, whether only of immigrants or of the population that includes the second generation, is greater in Montréal than in Toronto or Vancouver. Furthermore, the concentration in Toronto is higher than in Vancouver. Second, the table indicates that the values of D are higher for the population with an immigrant background than for the population that includes only immigrants in each CMA. Lastly, the values of D are shown to be higher in peripheral municipalities than in central municipalities. These last two results contradict the assumptions of the spatial assimilation theory, which associates settlement in the periphery of major municipalities with increased dispersion of groups with an immigrant background.

As presented in Part 1 of this study, the formation of immigrant enclaves is the starting point of the theory of spatial assimilation (Massey 1985). According to the traditional model of immigrant settlement, taken from the work of the Chicago School, these enclaves are formed when immigrants arrive and settle in the hearts of cities, often in neighbourhoods abandoned by the rest of the population. These enclaves grow through a process of ecological succession that enables new immigrants to settle in the same neighbourhood or in adjacent neighbourhoods as the original residents (e.g., native-born Canadians) migrate and as the new immigrant group grows through immigration networks maintained with its country of origin. The enclaves are characterized by, among other things, the presence of community life based on a common national origin, language, religion or other trait. Over time, the immigrants or people in the second generation who achieve a higher economic status (and who often have a better knowledge of the language of the host country) leave central neighbourhoods to settle in peripheral municipalities. According to the theory of spatial assimilation, this process should in principle occur without giving rise to urban concentration in peripheral municipalities. It should at the same time contribute to the spatial "assimilation" (dispersion) of immigrant groups in the urban space, which appears to have happened for the earliest waves of immigration in the United States (Massey and Denton 1988b). The results presented here, however, support an alternative hypothesis: the diversification of peripheral municipalities and the development of suburban concentrations. The results in this study appear to concord with other studies that have shown that the availability of affordable housing in the peripheries, as well as the presence of a personal and family network and of pre-established groups, may affect the settlement patterns of the population with an immigrant background in the neighbourhoods of peripheral cities (Murdie and Teixeira 2015; Li 1998; Massey and Aysa-Lastra 2011).

Table 11
Dissimilarity index (D) by type of municipality of residence, 2011

Type of population by municipality	Total of the Census metripolitan area	Central city	Peripheral city	Central city–peripheral city difference
	dissimilarity index (D)			
D (immigrants)				
Montréal	0.401	0.282	0.396	0.114
Toronto	0.282	0.261	0.297	0.037
Vancouver	0.274	0.233	0.284	0.050
D (population with an immigrant background)				
Montréal	0.456	0.365	0.441	0.076
Toronto	0.389	0.364	0.408	0.045
Vancouver	0.336	0.325	0.337	0.012

Source: Statistics Canada, National Household Survey, 2011.

Concentration by census metropolitan area and country of origin of the population with an immigrant background

The different population groups with an immigrant background present highly variable levels of spatial concentration (tables 12, 13 and 14). In Montréal the index varies from 0.347 for people originating from France to 0.727 for those from the Philippines. In Toronto it varies from 0.308 for those from the United Kingdom to 0.659 for those from Ghana, and in Vancouver it varies from 0.262 for those from the United Kingdom to 0.622 for those from India. Most of the groups are more concentrated in peripheral municipalities than in the central municipality. There are, however, numerous exceptions, mostly in Toronto and, to a lesser extent, in the Montréal CMA. The exceptions are often groups originating from Europe. Toronto presents a slightly different situation, given that numerous non-European groups also follow this trend. In all cases, the difference between the centre and the periphery is not large.

Table 12
Dissimilarity index and percentage of the groups with an immigrant background of 20,000 and over (except Colombia and Mexico) by place of residence in the census metropolitan area of Montréal, 2011

Group	Total population of group	Place of residence				Central city–peripheral city difference
		Periphery	Census metropolitan area total	Central city	Peripheral city	
	thousands	percentage	dissimilarity index (D)			number
France	58.0	37.7	0.347	0.368	0.256	-0.112
United States	22.7	37.1	0.419	0.394	0.409	0.015
Portugal	26.4	46.5	0.449	0.463	0.438	-0.025
Morocco	60.0	29.6	0.455	0.388	0.472	0.084
Romania	28.5	47.2	0.469	0.471	0.466	-0.005
Algeria	57.9	24.5	0.496	0.428	0.461	0.033
Colombia	15.1	41.5	0.502	0.430	0.555	0.125
Mexico	15.4	25.8	0.507	0.434	0.524	0.090
Haiti	102.4	33.6	0.516	0.495	0.503	0.008
China	54.7	34.1	0.527	0.418	0.584	0.166
Vietnam	37.8	24.8	0.537	0.415	0.591	0.176
Italy	108.3	28.7	0.544	0.530	0.466	-0.064
Egypt	22.0	43.9	0.587	0.559	0.609	0.050
Lebanon	50.2	45.8	0.601	0.564	0.632	0.068
Greece	37.7	48.7	0.648	0.616	0.679	0.063
India	23.9	38.3	0.683	0.645	0.724	0.080
The Philippines	29.3	23.4	0.727	0.705	0.708	0.004

Source: Statistics Canada, National Household Survey, 2011.

Table 13
Dissimilarity index and percentage of the groups with an immigrant background of 20,000 and over by place of residence in the census metropolitan area of Toronto, 2011

Group	Total population of group	Place of residence				Central city–peripheral city difference
		Periphery	Census metropolitan area total	Central city	Peripheral city	
	thousands	percentage	dissimilarity index (D)			number
United Kingdom	183.5	58.2	0.308	0.286	0.322	0.036
United States	58.5	45.1	0.311	0.342	0.264	-0.078
Germany	41.8	53.2	0.325	0.313	0.335	0.021
Trinidad and Tobago	68.4	52.7	0.368	0.349	0.384	0.036
The Philippines	227.1	42.1	0.373	0.378	0.355	-0.022
Jamaica	153.4	53.8	0.423	0.418	0.427	0.009
Poland	98.8	59.3	0.439	0.439	0.434	-0.005
Greece	57.4	35.0	0.451	0.458	0.404	-0.054
Guyana	105.8	50.3	0.452	0.472	0.433	-0.039
Romania	29.8	50.3	0.456	0.459	0.452	-0.006
Italy	234.5	60.3	0.460	0.470	0.455	-0.015
Vietnam	91.3	49.3	0.464	0.489	0.443	-0.047
Pakistan	131.3	65.9	0.493	0.520	0.457	-0.063
Portugal	118.2	48.4	0.505	0.623	0.397	-0.226
India	369.1	71.5	0.511	0.438	0.517	0.078
South Korea	54.3	41.1	0.521	0.516	0.517	0.001
Egypt	23.3	67.9	0.536	0.505	0.544	0.039
Ukraine	44.1	46.3	0.539	0.548	0.527	-0.021
Sri Lanka	147.9	44.1	0.548	0.598	0.487	-0.111
Russia	43.2	50.1	0.575	0.533	0.609	0.076
China	413.6	47.4	0.580	0.562	0.599	0.037
Iraq	27.2	62.0	0.616	0.682	0.556	-0.125
Afghanistan	28.7	44.0	0.619	0.651	0.582	-0.069
Iran	68.5	50.4	0.620	0.596	0.641	0.046
Bangladesh	31.7	20.4	0.628	0.624	0.576	-0.048
Ghana	23.0	50.9	0.659	0.697	0.626	-0.070

Source: Statistics Canada, National Household Survey, 2011.

Table 14
Dissimilarity index and percentage of the groups with an immigrant background of 15,000 and over, by place of residence in the census metropolitan area of Vancouver, 2011

Group	Total population of group	Place of residence				Central city–peripheral city difference
		Periphery	Census metropolitan area total	Central city	Peripheral city	
	thousands	percentage	dissimilarity index (D)			number
United Kingdom	100.4	77.6	0.262	0.269	0.260	-0.008
United States	34.3	66.5	0.271	0.290	0.243	-0.047
Germany	24.6	77.9	0.272	0.271	0.269	-0.002
Japan	15.4	64.0	0.355	0.287	0.380	0.094
The Philippines	112.0	68.0	0.372	0.380	0.366	-0.014
Italy	22.8	70.3	0.412	0.401	0.417	0.016
South Korea	39.3	84.5	0.469	0.457	0.463	0.006
Taiwan	45.5	73.4	0.470	0.436	0.484	0.047
China	297.3	58.0	0.505	0.377	0.531	0.155
Vietnam	36.4	49.7	0.528	0.483	0.497	0.014
Fiji	26.6	83.4	0.549	0.496	0.558	0.062
Iran	31.5	80.3	0.599	0.555	0.609	0.053
India	173.4	87.5	0.622	0.534	0.624	0.090
Poland	16.3	80.0	0.318	0.309	0.316	0.008

Source: Statistics Canada, National Household Survey, 2011.

In the three CMAs the populations from the British Isles, the United States, France and Germany, four groups that have an earlier presence in Canada, are consistently the least concentrated, with index values ranging from 0.260 to 0.420.[13] The most concentrated groups are more diverse in terms of origin, with Asian groups showing more diversity than other groups. In addition, these are all groups with a significant and much more recent presence in Canada, going back only a few decades, from the Philippines, India, Bangladesh, Ghana and Iran. In Montréal the Greek and Italian groups from the wave of southern European migration from 1950 to 1970 remain concentrated to a degree similar to that of the most concentrated Asian groups in the CMA, such as those originating from Vietnam, Lebanon and the Philippines. Between these two extremes, the level of concentration of some recently arrived groups in the three CMAs is observed to be relatively low. That said, aside from the Greek and Italian groups in Montréal, the older settlement groups are generally among the least concentrated ones.

This review of recent trends in the spatial distribution of the population with an immigrant background sheds light on a phenomenon already documented by other studies (for example, Hiebert [1999] for Vancouver, and Alba and Nee [1997] for the United States), namely that the settlement of immigrants in major urban agglomerations is following a different metropolitan process than has prevailed in the past. In addition, the trends toward suburbanization and concentration of the population with an immigrant background have become more marked in recent years.

First, a "shift" in recent immigration can be seen from Toronto and southern Ontario, and Vancouver and the rest of British Columbia, to other CMAs in Canada, whether in the Atlantic provinces, Quebec, Ottawa–Gatineau or the three Prairie provinces.

Next, data from the 2001 and 2006 censuses and from the 2011 NHS have shown that the initial settlement of immigrants in the central municipality and the processes of succession and suburbanization that follow no longer represent the predominant settlement mode of immigrants or a pattern of progressive occupation of the space. In fact, in their first five years of residence, more and more newcomers settle in the periphery of the central municipality, most often in the municipalities immediately surrounding it (the first level of suburbs, in a manner of speaking). This overall trend of suburbanization has been observed to prevail in all three major CMAs in Canada, even though it is more marked in the Toronto and Vancouver CMAs. Compared with recent immigrants, established immigrants in Canada have for a long time followed a similar trend: an increasing percentage of established immigrants are living in the peripheries, but the progression between 2001 and 2011 was less steady than among recent immigrants.

The suburbanization trend overlaps with a trend of concentration of the population with an immigrant background at the neighbourhood level. The concentration is more marked in the central municipality of the Montréal CMA than in that of Toronto and Vancouver, both for immigrants and for the total population with an immigrant background.

Lastly, the values of D of the groups with an immigrant background do not differ significantly between the centre and the periphery, and this is true, with a few exceptions, at all levels of concentration. The differences by country of origin are in fact more marked than the differences between the central and the peripheral municipalities.

This leads to the conclusion that the initial settlement patterns, fed by different immigration waves, are not limited to the central municipality, but have "spread" into the peripheral municipalities.

13. At least among the list of selected groups.

Part 4. Putting down social roots: Does place of residence make a difference?

In a context of increasing suburbanization of immigrants, which is accompanied by the concentration of certain immigrant groups in the neighbourhoods (census tracts) of peripheral and central municipalities (census subdivisions), one may wonder about the role of the place of residence in social integration.[14]

Various studies have highlighted the fact that Canadian ethnic enclaves in metropolitan regions are generally diverse both economically and culturally. This diversity could be beneficial in developing extensive social capital and lead to better economic and social integration in the host society (Teixeira 2015; Murdie and Ghosh 2010; Hiebert 2015; Li 1998). On the other hand, according to the theory of spatial assimilation, the geographic dispersion of minority groups in peripheral regions is an intermediate step that leads to social integration and the development of ties with the host society (Alba et al. 1999). As seen in Part 3 of this report, initial settlement patterns take different forms. In this context, one may wonder to what degree the different settlement patterns are linked (or not) to factors that may or may not favour social integration, in terms of social bonds developed in the country. Social integration can be analysed from different perspectives. In this study, social links established and maintained in the country is explored.[15]

This part of the study examines settlement patterns according to a few components of the social integration of immigrants and their second-generation descendants. In particular, the purpose of this part of the study is to answer the following question: to what extent do the characteristics of the settlement patterns, measured by geographical location (centre or periphery) and the demographic weight of the population with an immigrant background in a given neighbourhood, overlap with putting down "roots" and integrating "socially" through personal networks, relationships with neighbours, participation in social engagement activities, and a sense of belonging to the place of residence? For example, when the influence of other socioeconomic and demographic factors is controlled for, are immigrants and the second generation more or less likely to have more extensive personal networks, exchange favours with neighbours, volunteer and feel a strong sense of belonging to their local community when they live in a neighbourhood that has a high concentration of people with an immigrant background?

As discussed in the second section, this question is examined using data from the 2013 GSS on Social Identity. The study population is aged 15 years or older and includes recent immigrants who arrived between 2006 and 2013, established immigrants who arrived in 2005 or earlier, and Canadian-born people with two immigrant or foreign-born parents living in one of Canada's three largest CMAs, namely Montréal, Toronto and Vancouver. As has been seen so far, the overall suburbanization trend prevails in these CMAs, and the population with an immigrant background is distributed unevenly among the peripheral municipalities. Newcomers tend to settle more in the periphery of the central municipality, most often in the municipalities bordering it. For this reason, the peripheral municipalities have been separated into two categories: (1) the municipalities adjacent to the central municipality, which are referred to as first-ring peripheral municipalities; and (2) the second-ring peripheral municipalities. These are the other municipalities within the CMA.[16]

Central and peripheral perspective using the administrative boundary approach

The use of administrative boundaries to compare places of residence in the centre and the periphery of CMAs involves certain limitations. Indeed, central municipalities include not only neighbourhoods that are typically central (i.e., densely populated with predominantly pedestrian lifestyles), but also neighbourhoods that are relatively similar to those of peripheral municipalities, characterized by single-family homes and the increased use of motor vehicles to access services and public spaces. This calls into question the very meaning of the contrast between the centre and the periphery. Despite the fact that the built environment is relatively heterogeneous in central municipalities, the persistence of certain characteristics of the split between the centre and the periphery can be observed,

14. The definition of main concepts and geography units are presented in Part 2 of this report.
15. The concept of social integration and these dimensions are presented in Part 1 of this report.
16. For a complete list of municipalities included in the first and second rings of peripheral municipalities, see Appendix 2, "Independent variables."

namely the increased use of motor vehicles for commuting and the prevalence of single-family homes and couples with children in peripheral municipalities.[17]

For the purposes of this study, the use of administrative boundaries makes it possible to examine the extent to which certain components of social integration vary by the characteristics of settlement patterns presented in Part 3.

As Table 15 shows, the distribution of data from the 2013 GSS by type of municipality varies depending on the CMA of residence. In the Toronto CMA 45% of residents were living in a central municipality; this was the case for 54% in the Montréal CMA and for 27% in Vancouver.

Table 15
Population of interest from data of the General Social Survey on Social Identity by place of residence, 2013

		Type of municipality			Demographic weight of the population with an immigrant background in the neighbourhood		
Place of residence	Total	Central	Peripheral 1st ring	Peripheral 2nd ring	Less than 50%	50% to less than 70%	70% or greater
				number			
Total	4,192,535	1,810,780	1,662,817	718,938	1,086,098	1,301,284	1,805,153
				percentage			
Census metropolitan area of residence							
Montréal	100	54	33	12	52	30	18
Toronto	100	45	45	11	15	31	54
Vancouver	100	27	31	41	33	33	34
Total	100	43	40	17	26	31	43

Source: Statistics Canada, General Social Survey on Social Identity, 2013.

Degree of concentration of population with an immigrant background

To examine the effect of the concentration of the population with an immigrant background on components of social integration, the percentage that this population represents in a CT from the NHS was used. We created a scale that accounts for the demographic weight of the population with an immigrant background in the CT (or neighbourhood). It comprises three categories that correspond to the percentage of people with an immigrant background in the neighbourhood: 0% to less than 50%, 50% to less than 70%, and 70% or more. This scale has been used in other studies on the concentration of the population with an immigrant background and their socioeconomic characteristics (Hiebert, 2015).

In total, 43% of the study population included in the GSS data file lived in a neighbourhood where the population with an immigrant background represented more than 70% of the total population; 31% lived in a neighbourhood with an "average" level of concentration, that is, 50% to 70% of the total population had an immigrant background; and 26% lived in a neighbourhood where this population represented less than 50% of the total (data not shown).

As can be seen in Table 15, the distribution of respondents by type of neighbourhood varies across CMAs. In the Toronto CMA 54% of survey respondents were living in a neighbourhood where the share of the population with an immigrant background was high (more than 70%), while this was the case for 34% of respondents in the Vancouver CMA and 18% in the Montréal CMA.

Note that the use of the demographic weight of the population with an immigrant background in the neighbourhood as a measure of concentration does not account for the diversity or homogeneity of the neighbourhood's cultural composition. In this study, the ethnocultural, demographic and socioeconomic characteristics of the study population are examined independently of the demographic weight of the population with an immigrant

17. For example, data from the 2011 NHS indicate that at least 60% of the total employed population aged 15 years or older living in a peripheral municipality in the Montréal, Toronto and Vancouver CMAs drove a car, truck or van to work. In most peripheral municipalities, the percentage was greater than 75%. By comparison, a minority of the population in the central cities of Montréal, Toronto and Vancouver drove a motor vehicle to work. This was the case for 48.3% of the population in the city of Toronto, 48.2% in the city of Montréal and 48.0% in Vancouver. Residents of central municipalities are also more likely than residents of peripheral municipalities to work in the city where they live. For example, according to data from the 2011 NHS, 80% of commuters work and live in the central municipality of Toronto, compared with 55% in the peripheral municipality of Mississauga (Statistics Canada 2013b). Furthermore, couples with children are, as in the past, more concentrated in peripheral municipalities (For example, see Statistics Canada thematic maps based on 2011 NHS data: http://www12.statcan.gc.ca/census-recensement/2011/geo/map-carte/ref/thematic_fam-thematiques_fam-eng.cfm?SERIES=D).

background in a given neighbourhood. These characteristics are examined using the variables of region of birth and religious practice and other demographic and socioeconomic variables, such as relative median income in the CT (see Appendix 2 for a description of the complete list of independent variables).

The existence of homogeneous groups that are highly concentrated in a given neighbourhood is generally rare in Canada (Hou 2004; Hiebert 2015). As various studies have pointed out, most of the "enclaves" of Canadian municipalities are generally diversified places, not only in terms of place of birth, immigration status and ethnocultural groups, but also in terms of socioeconomic characteristics (Hou 2004; Hiebert 2000, 2015). In addition, Hou (2004) has shown that the formation of neighbourhoods composed mostly of visible minorities was mainly attributable to an increase in the number of minority group members in the total population of the municipality, rather than to an increase in the actual residential concentration. In other words, the increase in the number of people who belong to a visible minority group among the immigrant population in the last few decades has resulted in greater diversity and visibility of a multicultural mosaic that already existed in the spatial structure of urban Canada.

Preliminary analyses for this study have also shown that the homogeneity and concentration of a given group with an immigrant background did not have a significant effect on most of the social integration indicators selected. These results agree with the results of studies examining the effect of the concentration of specific groups on components of social integration (Wu, Schimmele and Hou 2010; Hiebert, 2015).

To determine the extent to which characteristics of residential settlement patterns—in this case, the type of municipality of residence and the demographic weight of the population with an immigrant background in the neighbourhood—can be associated with certain components of social integration, four series of logistic regression models were created, targeting four sets of indicators: (1) personal networks, (2) relationships with neighbours, (3) volunteering and civic engagement, and (4) the sense of belonging in terms of place of residence and people.

The variables underlying the indicators appear in two possible forms, either as variables composed of ordered categories, or as binary or dichotomous variables (yes/no). The regressions are binomial logistic regressions when the indicator has two possible values (0 or 1) and ordered logistic regressions for ordered-category indicators.[18] The complete list of selected indicators and their descriptions are presented in Table A1 in Appendix 1, and the list of independent variables is in Appendix 2.

The body of this report presents only the results of the relative four-variable regression models that are deemed to be of interest, namely the CMA of residence, the type of municipality (central versus first- and second-ring peripheral), the demographic weight of the population with an immigrant background in the neighbourhood, and the population group (recent immigrant, established immigrant and second generation). The detailed models from which the results presented in the body of this report have been taken can be found in appendices 3 to 6. The other results associated with the model variables are not examined in this report.

4.1 Personal networks established in Canada

The following are the results of the first series of models, which deal with six aspects of personal networks: the size of the local personal network and the network of acquaintances, the number of new people met, the frequency of meetings with family and friends, and ethnic diversity in friendships. For each model, the report examines the extent to which characteristics of the place of residence are associated with the indicators of social integration, when the potential influence of other demographic, economic and social factors is controlled for.

Size of personal networks and network of acquaintances

Settling in a new country may mean seeing relatives and friends less often, but this change may also lead to new encounters or enable renewed contact with existing ties in the new city. Personal networks may constitute a source of practical, material and psychological support. They can play a particularly important role for newcomers. Personal networks are defined as the social relationships developed and maintained in Canada, in this case in the same city or local community as the respondent. The relationships may be established in contexts such as

18. Other modelling options with continuous variables were considered: creating an ordered scale on the basis of more than two groups, using a linear regression on the number of acquaintances (for example), and even using a Poisson regression. Preliminary analyses showed that the results of these models are similar to those of the model that was adopted and are not without shortcomings, in particular the linear regression and the Poisson regression.

the family, the neighbourhood, work, leisure or other activities. Relationships maintained in virtual social networks and with people living outside the respondent's city or local community are not considered. In the GSS a single question makes it possible to identify existing social relationships in Canada, namely the number of relatives, close friends and acquaintances living in the same city or local community as the respondent. Close relatives and friends refers as those who living in another household to whom the respondent feels at ease and could speak freely with them, and could call on them for help. Respondents may have established other relationships in Canada outside their city or local community. For readability, the terms "local personal networks" and "personal networks" will be used interchangeably.

Overall, the median size of local personal networks is 16 people and that of networks of acquaintances is 10 people. In both cases, the population of peripheral municipalities is less likely than that of central municipalities to have personal networks of a size greater than or equal to the median. In central municipalities, approximately half (49%) of respondents reported having more than 15 people in their entire personal network, compared with 46% in first-ring peripheral municipalities and 41% in second-ring peripheral municipalities (data not shown). As for the size of the network of acquaintances, 47% of residents of central municipalities reported 10 people or more in their network of acquaintances, while these proportions were 40% and 38% in first and second-ring peripheral municipalities, respectively (Chart 1).

A number of factors, such as age, sex and education, may influence the size of personal networks. When the effect of individual characteristics and other factors that may be associated with the number of personal relationships are controlled for, the differences observed between the three types of municipality persist. People in the first- and second-ring peripheral municipalities remain less likely than residents of central municipalities to have more larger personal and acquaintance networks (the odds ratios by municipality of residence are 0.73 and 0.50 for the model on personal networks and 0.71 and 0.44 for the model on the number of acquaintances) (Table 16).

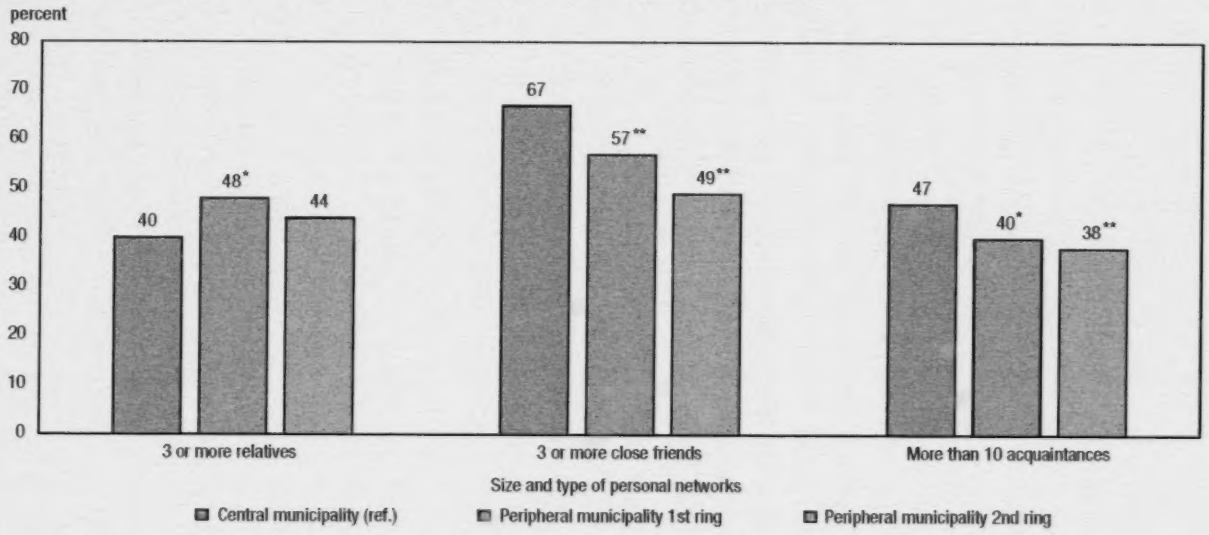
Table 16
Individual and contextual characteristics associated with certain characteristics of personal networks, census metropolitan areas of Montréal, Toronto and Vancouver, 2013

	Characteristics of personal networks					
	Analysis method - logistic regressions		Analysis method - ordered logistic regressions			
Individual and place of residence characteristics[1]	Persons with a personal network of more than 15 people	Persons with a network of acquaintances of more than 10 people	Meetings with family in the last month	Meetings with friends in the last month	New people met in the last month	Ethnic diversity among friends contacted in the last month
	odds ratios[2]					
Census metropolitan area						
Montréal	0.90	0.66**	1.44**	1.00	0.89	0.63**
Toronto (ref.)	1.00	1.00	1.00	1.00	1.00	1.00**
Vancouver	1.20	1.28	1.00	1.25	0.96	0.98
Type of municipality						
Central (ref.)	1.00	1.00	1.00	1.00	1.00	1.00
Peripheral 1st ring	0.73*	0.71*	1.33*	1.01	0.94	0.75*
Peripheral 2nd ring	0.50**	0.44**	1.26	0.73*	0.88	0.74*
Demographic weight of immigrant population in neighbourhood						
Less than 50% (ref.)	1.00	1.00	1.00	1.00	1.00	1.00
50% to less than 70%	1.28	1.03	1.07	0.95	1.06	0.86
70% or greater	0.93	0.68*	1.03	0.74*	0.87	0.85
Period of immigration and generation						
Recent immigrant	0.67*	0.70*	0.38**	0.91	1.49*	0.69**
Established immigrant (ref.)	1.00	1.00	1.00	1.00	1.00	1.00
Second generation	1.38*	1.13	1.52**	1.11	1.07	0.91

* significantly different from reference category (ref.) at $p < 0.05$
** significantly different from reference category (ref.) at $p < 0.01$
1. For a complete list of results of variables included in this model, see Table A3 in Appendix 3.
2. An odds ratio of 1 means that the likelihood of observing the phenomenon is 100%.
Source: Statistics Canada, General Social Survey on Social Identity, 2013.

These results may be attributable to the profile of the personal networks that are typical for each place of residence. In peripheral municipalities, personal networks are characterized by the prevalence of family networks, while local friendships are predominant in central municipalities.[19] Specifically, nearly half (48%) of residents in first-ring peripheral municipalitiess reported having at least three close relatives who lived in the same city or community as them, compared with 40% of their counterparts in central municipalities (Chart 1). As for friends, the opposite is true. Two-thirds (67%) of people living in central municipalities reported having at least three close friends, compared with 57% and 49% of those living in first- and second-ring peripheral municipalities, respectively.

Chart 1
Number of relatives, close friends and acquaintances, by municipality of residence, 2013



* significantly different from reference category (ref.) at $p < 0.05$
** significantly different from reference category (ref.) at $p < 0.01$
Note: Includes the CMAs of Montréal, Toronto and Vancouver.
Source: Statistics Canada, General Social Survey on Social Identity, 2013.

The strong presence of people with an immigrant background in the neighbourhood is associated with a smaller number of acquaintances (odds ratio of 0.68). As in the case with central municipalities, this result can be explained by the composition of personal networks in neighbourhoods where the population with an immigrant background is higher. Indeed, the number of friends and relatives with whom the respondent feels at ease and could call on them for help is higher in the neighbourhoods that have the most concentrated population with an immigrant background. More specifically, 54% of residents living in neighbourhoods where this population is a minority reported having three or more close friends in their local personal network, compared with 65% among residents of neighbourhoods where the population with an immigrant background represents over 50% of the total population. The same findings were observed for close relatives: 42% of residents in neighbourhoods with a lower ethnic concentration reported having three or more relatives to whom they felt closest, compared with 46% in the more highly concentrated neighbourhoods (data not shown). These data suggest that networks of close ties are more likely to be in neighbourhoods with a higher concentration of people with an immigrant background than in neighbourhoods where the population with an immigrant background has a weaker presence. This is in line with other studies on ethnic enclaves that

19. In general, the number of relatives and friends to whom the respondent feels closest is smaller than the number of acquaintances reported. On average, the population with an immigrant background reported 2 close relatives and 3 close friends. When the numbers of ties are combined into four groups, 27% of respondents reported having no family members to whom they felt closest living in the same city (other than those with whom they were living), 29% reported one or two people, 19% reported three or four, and 25% reported five or more. For the number of close friends, 12% reported having none, 28% reported one or two, 24% reported three or four, and 36% reported five or more.

revealed the presence of family and friendship networks among people with an immigrant background who live in this type of neighbourhood (Boyd 1989; Kataure and Walton-Roberts 2015; Teixeira 2015; Massey and Aysa-Lastra 2011). Still, the total size of personal networks is similar overall in each type of neighbourhood.

Although the propensity to have smaller personal networks and networks of acquaintances in peripheral municipalities and neighbourhoods that are highly ethnically concentrated, it is important to note that these results are limited to existing ties in the same city or community of residence. Respondents may have established social ties with people living elsewhere in Canada. Another limitation of the data is attributable to the fact that personal networks evolve and change in response to various events experienced throughout the life cycle. The information collected in the survey makes it possible to take a snapshot of a given moment in the lives of respondents. As with the effect of time spent in Canada, it is impossible to determine the effect of a change in place of residence on the size and composition of local personal networks. Since the data gathered and analyzed in this study deal only with local personal networks, it is not possible, for example, to determine whether or not people who left a central municipality for a peripheral municipality maintained the friendships they had before they moved. Research has well illustrated the link between personal networks and the choice of place of residence (Kataure and Walton-Roberts 2015; Massey and Aysa-Lastra 2011). In general, immigrant (and non-immigrant) populations settle close to family when possible. The results appear to represent typical modes of sociability for each area; nearby family networks are more prevalent in peripheral municipalities, rather than a lack of social integration as such. This is what can be seen using models on the frequency of meetings and ethnic diversity in networks of friends and acquaintances.

Frequency of meetings

Aside from the size of personal networks, the frequency of meetings with family members and friends is another aspect of social integration, since it reflects in a way the maintenance of ties. According to the GSS data, 42% of residents of first- and second-ring peripheral municipalities reported having seen a family member at least once a week over the previous month, versus 34% among residents of central municipalities. As for the frequency of meetings with friends, the opposite is true. Meetings with friends are more frequent in central municipalities than in more distant neighbourhoods. In central municipality neighbourhoods three residents in five (60%) saw their friends weekly, while this percentage is 57% in first-ring peripheral municipalities and 54% in second-ring peripheral municipalities. Even after the effect of other factors, such as age and family status, is controlled for, meetings with family members remain more frequent among residents of first-ring peripheral municipalities than among those of central municipalities (odds ratio of 1.33). Conversely, meetings with friends are less frequent in second-ring peripheral municipalities than in central municipalities (odds ratio of 0.73). The results for the frequency of meetings with family and friends are consistent with those for the composition of personal networks. In general, residents of first- and second-ring peripheral municipalities have personal networks that are smaller, but composed of more family ties, than the networks of central municipality residents.

Ethnic diversity in friend and acquaintance networks

For a number of decades Canada has been welcoming immigrants from every continent, and this has helped to diversify the country's cultural landscape. In this study, ethnic diversity in the network of friends is examined using the number of friends with whom the respondent has communicated in the last month who belong to an ethnic group "visibly different from that of the respondent."

According to data from the 2013 GSS, approximately 30% of the population with an immigrant background living in a first- or second-ring peripheral municipality believe that at least half of the friends with whom they communicated in the last month belong to an ethnic group visibly different from theirs, versus 37% of their counterparts in central municipalities. These differences persist in the regression analysis: living in a peripheral municipality significantly reduces the propensity to have been in contact with a large number of friends belonging to another ethnic group (odds ratios of 0.75 and 0.74). However, it may be that friendships established in peripheral municipalities are diversified in other ways, such as by mother tongue, religion or country of birth, but these other dimensions of diversity cannot be measured with the data collected. Nevertheless, the results of this model are consistent with the composition of personal networks. The personal networks of residents of peripheral municipalities comprise more family ties than those of central municipalities' residents. Ethnic diversity is generally lower in family networks compared to friendship networks.

No statistically significant association is observed with regard to the possible effect of the demographic weight of the population with an immigrant background in the neighbourhood on having friends in different ethnic groups.

Number of new people met

In the GSS, respondents are asked to report the number of new people they met outside school or work in the last month with whom they intend to stay in contact. Some settings and social activities may be more conducive to meeting new people. For the place of residence, there is no statistically significant difference with respect to the likelihood of meeting a larger number of new people, regardless of the CMA or type of municipality of residence. The result is the same for the variable that takes into account the demographic weight of the population with an immigrant background in the neighbourhood: people living in a neighbourhood where the population with an immigrant background is strongly represented (70% or greater) are not more likely to have made new friends than those in neighbourhoods where the population with an immigrant background is a minority. These results may have been different, however, if respondents had had to refer to the last 6, or even 12, months instead of only the last month.

Time dimension of immigration and personal networks

Despite the effect that the type of municipality of residence may have on the size of the network of acquaintances, the frequency of meetings with relatives and the ethnic diversity of the friends with whom respondents have been in contact in the last month, it can be seen that time spent in Canada is a better determinant of social integration than most of the social tie indicators, particularly with regard to the number of new people met.

Settling in a new country involves a number of changes in several areas of activity that promote meeting new people. For example, in the month preceding the survey, 23% of recent immigrants met at least six new people with whom they intended to remain in contact, or twice the rate for established immigrants (11%) (data not shown). By comparison, this percentage is 18% for people in the second generation (data not shown). When the effect of other factors is controlled for, the effect of time spent in Canada persists only for recent immigrants. Recent immigrants are therefore more likely than established immigrants and the second-generation population to have met a larger number of people in the last month with whom they intend to remain in contact (odds ratio of 1.49). However, being born in Canada of immigrant parents (second generation) is statistically associated with having personal networks of more than 15 people. What can be seen here, for recent immigrants, is the effect of rebuilding networks during their initial settlement in Canada.

Note that the frequency of meetings with family is lower among recent immigrants than among established immigrants (odds ratio of 0.38), while the reverse is true for people in the second generation, who see family members more often than established immigrants (odds ratio of 1.52).

As for ethnic diversity in friendships, time spent in Canada again appears to be a more important determinant than the characteristics of residential patterns. Recent immigrants are less likely than established immigrants to have had contact with friends in an ethnic group visibly different from theirs (odds ratio of 0.69). This suggests that, over time, personal networks tend to become relatively more heterogeneous ethnically speaking, regardless of the degree of concentration of the population with an immigrant background in the neighbourhood. These results align with other studies that have shown that recent immigrants tend to surround themselves with members of their community upon arriving in Canada and then diversify their personal network afterwards (Alba and Logan 1991; Massey 1985). The same studies also show that it is dispersion in peripheral neighbourhoods that enables the diversification of social relationships. However, the results of this study show that the degree of concentration of the population with an immigrant background in a neighbourhood is not significantly associated with diversity in friendships, which is instead influenced by time spent in Canada (for immigrants).

The results of this first series of models have made it possible to establish that the type of municipality (central municipality versus first- and second-ring peripheral municipalities) is a statistically significant factor associated with certain aspects of personal networks, such as the size of personal and acquaintance networks, the frequency of meetings with family members and friends, and ethnic diversity in friendships.

Residents of first- and second-ring peripheral municipalities are therefore less likely than their central municipality counterparts to have personal networks of more than 15 people, to have more than 10 acquaintances and to have had contact in the last month with a higher number of friends from another ethnic group. They also have a greater propensity than residents of central municipalities to see their relatives. These results are related in part to the typical profile of peripheral municipalities, characterized by the prevalence of families with children, and suggest that networks of relatives are larger. It is therefore not surprising to note, on the one hand, that the personal networks of peripheral municipality residents contain a higher proportion of relatives living nearby than friends and acquaintances, and, on the other hand, that the frequency of meetings with family is greater.

Residents in neighbourhoods where the population with an immigrant background is highly concentrated (70% or more) were also less likely to have larger acquaintance networks. This result can be explained by the prevalence of more developed family networks in this type of neighbourhood.

By looking at networks, this study concludes that social integration is associated less with the dispersion and concentration of immigrant groups and is more the result of other factors, such as the period of immigration and the generation. In addition, the results of the models on ethnic diversity in friend networks seem to indicate that the propensity of having contact with friends from a different ethnic group is not as great in peripheral municipalities as in central municipalities.

4.2 Relationships with neighbours

Various studies have shed light on the importance of neighbours as an occasional, practical source of assistance and a source of physical and personal security (Sampson 2012). In some municipalities, for example, residents set up platforms so residents in the same neighbourhood can contact each other, to make it easier to exchange favours or goods as needed.[20] Relationships with neighbours are presented here as key resources that can provide practical support and better security, while strengthening social cohesion and the sense of belonging to the local community.

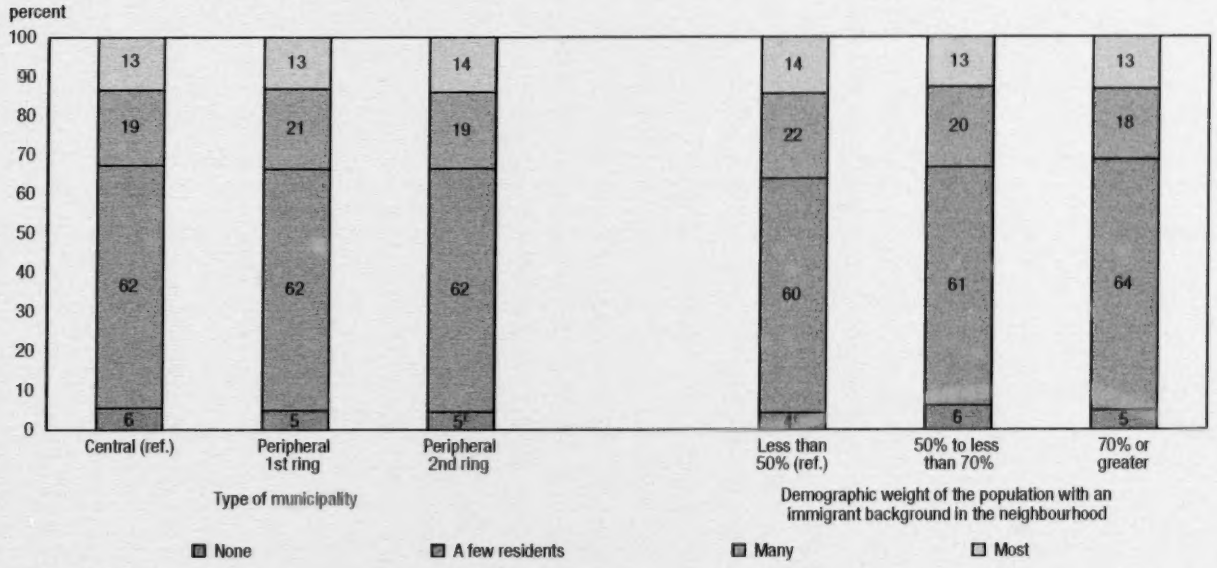
Relationships with neighbours are examined using three indicators: (1) the number of residents known in the neighbourhood, (2) the favours done for or received from a neighbour in the last month and (3) the number of trusted neighbours in the neighbourhood.

Number of residents known in the neighbourhood, and favours done and received

Overall, 62% of the population with an immigrant background reported knowing a few residents in the neighbourhood, and one-third (33%) reported knowing many or most. As shown in Chart 2, the number of residents known in the neighbourhood varies very little by type of municipality and neighbourhood of residence. For example, the percentage of residents who reported knowing many or most of their neighbours is similar in each type of municipality, about one-third. When the effect of other factors, such as the length of residence in the neighbourhood is taken into account, there is no statistically significant association between the type of municipality, the degree of concentration and the number of residents known in the neighbourhood (Table 17).

20. For example, see http://www.ici-nos-quartiers.org/ (in French).

Chart 2
Number of residents known in the neighbourhood, by type of municipality and demographic weight of the population with an immigrant background in the neighbourhood, 2013



[E] use with caution
(ref.) reference category
Note: Includes the CMAs of Montréal, Toronto and Vancouver.
Source: Statistics Canada, General Social Survey on Social Identity, 2013.

Regardless of the type of municipality of residence, most residents (72%) reported having done or received a favour in the last month. In neighbourhoods where the population with an immigrant background is highly concentrated (70% and higher), the percentage is 69%, compared with 74% in neighbourhoods with a lower concentration (data not shown). The fact remains that, regardless of the CMA, the type of municipality of residence or the weight of the population with an immigrant background in the neighbourhood, none of the differences are statistically significant, even when the effect of other factors is controlled for (Table 17).

Table 17
Individual and contextual characteristics associated with neighbourhood practices, census metropolitan areas of Montréal, Toronto and Vancouver, 2013

	Practices and perceptions of neighbourhood		
	Analysis method - ordered logistic regression	Analysis method - logistic regression	Analysis method - ordered logistic regression
	Knowing neighbours	Person having provided a service to or received a service from a neighbour in the last month	Number of neighbours whom the respondent trusts
Individual and place of residence characteristics[1]	odds ratios[2]		
Census metropolitan area			
Montréal	0.90	1.53	0.54**
Toronto (ref.)	1.00	1.00	1.00**
Vancouver	0.79	0.78	0.94
Type of municipality			
Central (ref.)	1.00	1.00	1.00
Peripheral 1st ring	0.95	0.93	1.16
Peripheral 2nd ring	1.37	0.93	0.92

Table 17 (end)
Individual and contextual characteristics associated with neighbourhood practices, census metropolitan areas of Montréal, Toronto and Vancouver, 2013

	Practices and perceptions of neighbourhood		
	Analysis method - ordered logistic regression	Analysis method - logistic regression	Analysis method - ordered logistic regression
	Knowing neighbours	Person having provided a service to or received a service from a neighbour in the last month	Number of neighbours whom the respondent trusts
Individual and place of residence characteristics[1]	odds ratios[2]		
Demographic weight of immigrant population in neighbourhood			
Less than 50% (ref.)	1.00	1.00	1.00
50% to less than 70%	0.76	0.91	0.73
70% or greater	0.82	0.75	0.68
Period of immigration and generation			
Recent immigrant	1.14	0.77	0.93
Established immigrant (ref.)	1.00	1.00	1.00
Second generation	0.99	1.15	1.18

* significantly different from reference category (ref.) at $p < 0.05$
** significantly different from reference category (ref.) at $p < 0.01$
1. For a complete list of results of variables included in this model, see Table A4 in Appendix 3.
2. An odds ratio of 1 means that the likelihood of observing the phenomenon is 100%.
Source: Statistics Canada, General Social Survey on Social Identity, 2013.

Number of trusted neighbours

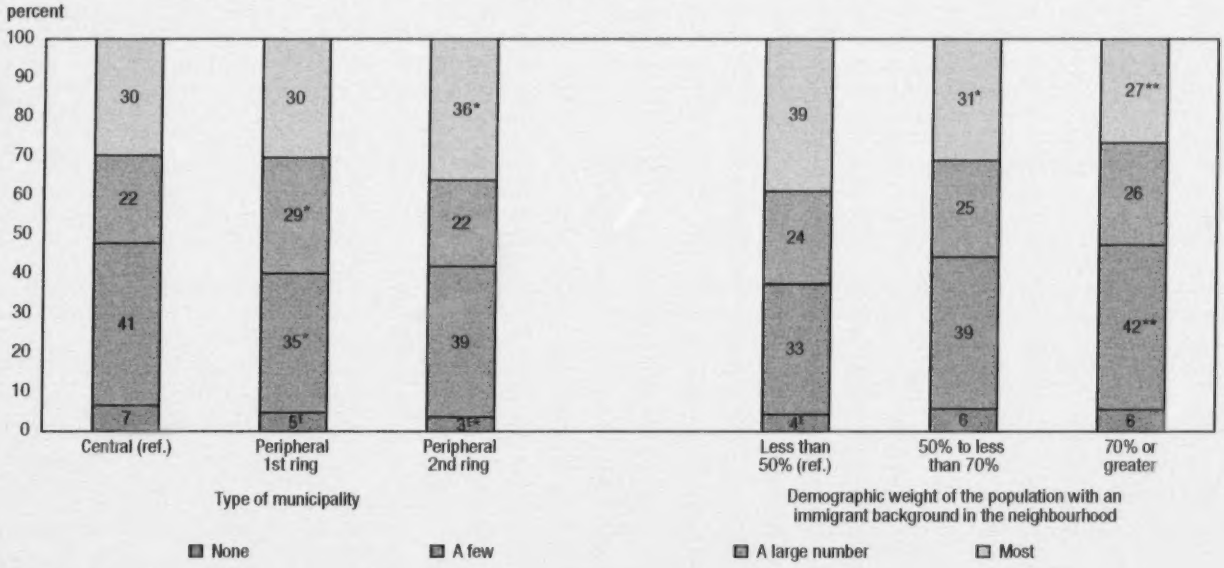
Trust in the neighbourhood's residents is an indicator of the quality of social relationships at the neighbourhood level. This indicator is used as a measure of population well-being and as an intervention tool in crime prevention at the neighbourhood level (Scrivens and Smith 2013; Morenoff Sampson and Raudenbush, 1997).

In the GSS, respondents were asked how many residents in their neighbourhood they trusted (most, many, a few or nobody). As shown in Chart 3, regardless of the place of residence and the demographic weight of the population with an immigrant background in the neighbourhood, most respondents reported trusting many or most of the people in their neighbourhood. Two-thirds (63%) of residents in neighbourhoods where the population with an immigrant background was a minority (less than 50% of the total population) reported trusting many or most of the residents in their neighbourhood. By comparison, this was the case for 56% of residents in neighbourhoods where the population with an immigrant background had a moderate demographic weight (50% to 70% of the total population) and 53% of residents in neighbourhoods with a very strong population with an immigrant background (more than 70% of the total population).

Although these data suggest that a correlation exists between trust and the strong presence of a population with an immigrant background in the neighbourhood, the correlation disappears completely when the effect of other factors is controlled for. Like the type of neighbourhood of residence, the type of municipality of residence is not associated with the number of people in the neighbourhood whom respondents report trusting.

In the Montréal CMA the propensity to trust many neighbours is lower than in the Toronto CMA, while the Vancouver CMA shows no statistically significant difference in comparison with Toronto (odds ratio of 0.54). The percentage of people who reported trusting many or most of the residents in their neighbourhood is 46% in the Montréal CMA, versus 58% and 60% in the Toronto and Vancouver CMAs, respectively.

Chart 3
Number of neighbours whom the respondent reports trusting, by type of municipality and demographic weight of the population with an immigrant background in the neighbourhood, 2013



[t] use with caution
* significantly different from reference category (ref.) at $p < 0.05$
** significantly different from reference category (ref.) at $p < 0.01$
Note: Includes CMAs of Montréal, Toronto and Vancouver.
Source: Statistics Canada, General Social Survey on Social Identity, 2013.

The results of this series of models on relationships with neighbours and neighbourhood perceptions have shown that the type of neighbourhood or municipality are not contextual factors associated with more dense and dynamic relationships with neighbours. The same is observed with respect to the time spent in Canada and the generation. However, other factors, such as integration into a local personal network and religious practices, are better determinants of increased acquaintance with neighbourhood residents, the exchange of favours, and trust in neighbours (results are presented in Table A4).

4.3 Volunteer activities and civic engagement

Volunteer or group activities may vary in nature and according to individual tastes and preferences. Participation in volunteer or group activities, regardless of their nature, may be not only an opportunity to increase the number of social contacts and maintain ties with people who share common values and objectives, but also a valuable source of support and integration.

Research has shown that volunteering may be used as an indicator of social integration for immigrants, because of the benefits associated with it (Joseph 1995; Osili and Du 2005). According to the United Nations report on the socioeconomic conditions of migrants, social participation and volunteering strengthen the sense of community and create ties between members of different groups who are not usually in contact with each other (UNECE 2015).

This section examines volunteering and participation in group activities as an indicator of social integration. Three logistic regression models are used to study the association between the type settlement patterns and the following: (1) volunteering, (2) participation in a neighbourhood or community association and (3) involvement in an immigrant or ethnic organization.

Volunteering and participation in group activities

A number of personal reasons and contextual factors may motivate people to give time as a volunteer or become involved in a community association in their neighbourhood or an organization working with immigrants or with a specific ethnic group.

Regardless of the type of municipality or neighbourhood of residence, approximately 30% of the study population devoted time to volunteering in a non-profit organization. The propensity to volunteer is, however, not statistically linked to the type of municipality of residence and neighbourhood.

As for group participation, 18% of the population with an immigrant background reported being involved in a neighbourhood association and 7% in an immigrant or ethnic association.

Similar shares of members of a community or neighbourhood association are observed in central municipalities and first-ring peripheral municipalities (20% and 17%). By contrast, this percentage is 13% in second-ring municipalities. When the possible effect of others factors on participation in a neighbourhood or community association is controlled for, the discrepancy between municipalities of residence disappears (Table 18).

Participation in an organization that works with immigrants or a specific ethnic group is similar in central and peripheral municipalities (of the first and second rings), approximately 7%. Like the model on volunteering and participation in a neighbourhood or community association, there is no statistically significant link between participation in an association and the type of municipality of residence.

Table 18
Individual and contextual characteristics associated with volunteering and civic engagement activities, census metropolitan areas of Montréal, Toronto and Vancouver, 2013

	Volunteering and civic engagement activities		
	Analysis method - logistic regressions		
Individual and place of residence characteristics[1]	Volunteering	Members of or participants in a school group or a neighbourhood or community association	Members of or participants in an immigrant or ethnic club or association
	odds ratios[2]		
Census metropolitan area			
Montréal	0.60**	0.53**	1.23
Toronto (ref.)	1.00	1.00	1.00
Vancouver	1.59**	0.94	1.18
Type of municipality			
Central (ref.)	1.00	1.00	1.00
Peripheral 1st ring	0.88	0.74	1.08
Peripheral 2nd ring	0.78	0.70	0.92
Demographic weight of immigrant population in neighbourhood			
Less than 50% (ref.)	1.00	1.00	1.00
50% to less than 70%	0.79	1.08	2.09**
70% or greater	0.99	1.25	1.66
Period of immigration and generation			
Recent immigrant	0.75	1.18	1.59
Established immigrant (ref.)	1.00	1.00	1.00
Second generation	1.13	1.08	1.29

* significantly different from reference category (ref.) at $p < 0.05$
** significantly different from reference category (ref.) at $p < 0.01$
1. For a complete list of results of variables included in this model, see Table A5 in Appendix 3.
2. An odds ratio of 1 means that the likelihood of observing the phenomenon is 100%.
Source: Statistics Canada, General Social Survey on Social Identity, 2013.

As for the effect of the demographic weight of the population with an immigrant background in the neighbourhood, residents of neighbourhoods where the population with an immigrant background is moderately concentrated (50% to 70% of the total population) are more likely to be part of an immigrant or ethnic organization than their counterparts in neighbourhoods where the population with an immigrant background is a minority (odds ratio

of 2.09).[21] However, this is the only organization for which the relative weight of the population with an immigrant background in the neighbourhood has a statistically significant effect on social participation.

The propensity to volunteer is higher in the Vancouver CMA than in the Toronto CMA (odds ratio of 1.59). In the Montréal CMA residents are less likely than residents of the Toronto CMA to volunteer and participate in a community or neighbourhood organization (odds ratios of 0.60 and 0.53).

This third series of models reveals the mitigated effect of settlement patterns on the propensity to engage in volunteering and group activities for a neighbourhood organization or an association that works with a group that shares common ethnocultural characteristics. On the one hand, the location of the place of residence (central or peripheral) is not in itself statistically associated with the act of volunteering or with involvement in a community association or in an immigrant or ethnic association. On the other hand, residents of neighbourhoods where the population with an immigrant background represents 50% to 70% of the total population are more likely to be part of an immigrant or ethnic organization. This last result nevertheless tends to confirm the studies on ethnic enclaves whereby neighbourhoods with a strong immigrant presence are generally places of mutual assistance. This finding is reinforced by the fact that participation in immigrant or ethnic organizations is also high (even though it is not significant) in neighbourhoods where the proportion of the population with an immigrant background is highest (70% or more of the total population).

4.4 Sense of belonging

The sense of belonging is another aspect of social integration, this time from the perspective of the respondent. It reflects, in a way, how people perceive their place in a community or group, as well as how they express their identity in relation to the group.

This fourth series of eight statistical models first examines the influence of settlement patterns on the sense of belonging to the place of residence, on a scale of four geographic levels: the local community, the town or city, the province and the country (Canada). Second, the report examines the sense of belonging with people sharing common ethnocultural characteristics, namely country of origin, ethnicity or culture, and mother tongue.

Overall, a large majority of immigrants and second-generation individuals reported feeling a very strong or somewhat strong sense of belonging at the national, provincial, municipal and local level, but differences can be seen depending on the type of residential scale. Specifically, 94% of the population with an immigrant background expressed a very strong or somewhat strong sense of belonging to Canada, while the corresponding percentages for the province and the town or city are 85% and 86% (Table 19). Most respondents also described their sense of belonging to the local community as very strong or somewhat strong, but in a smaller proportion than at other geographic levels, the proportion being 81%.

These results may mean that the attachment to a given geographical unit corresponds to different experiences and perceptions. Especially for immigrants, Canada may have a special symbolic meaning as a host country and as the type of society where they have chosen to lead a new life, and this may explain why national attachment is higher than the attachment associated with other geographical levels. At the other end of the spectrum, the local community represents a more concrete, multifunctional residential space that may be social, domestic, practical and symbolic in nature (Authier 2010). Life experiences may, from this perspective, be more varied and may partially explain why the sense of belonging felt for the local community is generally weaker than that felt for Canada, the province and the town or city.

The sense of belonging with people who have the same mother tongue and ethnicity or culture is described as somewhat strong or very strong by the study population as a whole. Specifically, 89% of the population with an immigrant background reported a somewhat strong or very strong sense of belonging with people who have the same mother tongue, compared with 85% for attachment to people of the same ethnicity or culture. Among recent and established immigrants, 73% reported a very strong or somewhat strong sense of belonging to their country of origin.

21. However, the odds ratio for the demographic weight of the population with an immigrant background in neighbourhoods with a concentration of 70% or more is similar in value to that for the weight of the group from 50% to less than 70%, namely 1.73, although it is not significant.

With respect to residential characteristics, Table 19 shows that residents of central municipalities generally have a profile similar to that of residents of peripheral municipalities. There is no significant correlation between the proportion of the population with an immigrant background in the neighbourhood and the sense of belonging to the place of residence or with people sharing common characteristics.

Table 19
Sense of belonging with respect to place of residence, country of origin, ethnic and language group, by contextuals characteristics, census metropolitan areas of Montréal, Toronto and Vancouver, 2013

		Municipality			Demographic weight of immigrant population in neighbourhood		
	Total	Central (ref.)	Peripheral 1st ring	Peripheral 2nd ring	Less than 50% (ref.)	50% to less than 70%	70% or greater
Sense of belonging	percentage						
Local community	81	79	82	82	82	80	80
City	86	88	86	84	86	86	86
Province	85	83	83	88*	86	83	87
Canada	94	94	93	96[E]	95	93	94
Country of origin	73	72	75	73	72	73	74
People of same ethnicity or culture	85	83	88	84	84	83	87
People with same mother tongue	89	87	90*	89	89	86	90

[E] use with caution
* significantly different from reference category (ref.) at $p < 0.05$
Source: Statistics Canada, General Social Survey on Social Identity, 2013.

The results of the regression analyses reinforce this observation (Table 20). Only the model on the sense of belonging to the town or city shows a statistically significant association, namely that residents of peripheral municipalities tend to report a weaker attachment to their town or city than their counterparts in central municipalities (odds ratio of 0.64 for first-ring peripheral municipalities and 0.52 for the second ring). Unlike peripheral municipalities, central municipalities bear the name of their metropolitan area and are the location of several economic and artistic activity, as well as national and international sports events. In a way, this helps to define the soul and personality of a metropolitan area and seems to strengthen people's attachment to it. In light of this, living and working in a central municipality may partially explain why the sense of belonging to the town or city is stronger than in peripheral municipalities.[22] Respondents in the Montréal and Vancouver CMAs were also more likely than residents of the Toronto CMA to express a strong sense of belonging to their town or city (odds ratios of 1.44 and 1.40).

As for the demographic weight of the population with an immigrant background in the neighbourhood, no statistically significant effect was observed in the models.

Table 20
Individual and contextual characteristics associated with a sense of belonging with respect to place of residence, country of origin, ethnic and language group, census metropolitan areas of Montréal, Toronto and Vancouver, 2013

	Sense of belonging with respect to place of residence, country of origin and groups of people						
	Analysis method - ordered logistic regression						
	Local community	City	Province	Canada	Country of origin	People of same ethnicity or culture	People with same mother tongue
Individual and place of residence characteristics[1]	odds ratios[2]						
Census metropolitan area							
Montréal	0.99	1.44*	0.85	0.92	1.31	1.14	1.06
Toronto	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Vancouver	1.29	1.40*	1.08	0.92	0.91	0.87	0.85
Type of municipality							
Central (ref.)	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Peripheral 1st ring	0.86	0.64**	0.89	0.76	0.87	1.17	1.06
Peripheral 2nd ring	0.85	0.52**	0.99	0.90	1.29	1.21	1.17

22. Indeed, residents in central municipalities are more likely overall to work there, compared with residents of peripheral municipalities. For more information, see Statistics Canada (2013b).

Table 20 (end)
Individual and contextual characteristics associated with a sense of belonging with respect to place of residence, country of origin, ethnic and language group, census metropolitan areas of Montréal, Toronto and Vancouver, 2013

	Sense of belonging with respect to place of residence, country of origin and groups of people						
	Analysis method - ordered logistic regression						
Individual and place of residence characteristics[1]	Local community	City	Province	Canada	Country of origin	People of same ethnicity or culture	People with same mother tongue
	odds ratios[2]						
Demographic weight of immigrant population in neighbourhood							
Less than 50% (ref.)	1.00	1.00	1.00	1.00	1.00	1.00	1.00
50% to less than 70%	0.90	0.94	0.86	0.97	0.93	1.14	1.02
70% or greater	0.81	0.91	0.83	1.09	1.06	1.25	1.27
Period of immigration and generation							
Recent immigrant	1.21	1.07	1.28	0.86	1.92**	1.33*	1.21
Established immigrant (ref.)	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Second generation	1.14	1.02	0.89	0.93	...	1.55**	1.60**

... not applicable
* significantly different from reference category (ref.) at $p < 0.05$
** significantly different from reference category (ref.) at $p < 0.01$
1. For a complete list of results of variables included in this model, see Table A6 in Appendix 3.
2. An odds ratio of 1 means that the likelihood of observing the phenomenon is 100%.
Source: Statistics Canada, General Social Survey on Social Identity, 2013.

The effect of time since the arrival in Canada and the generation are statistically significant only in the models on the sense of belonging with people who share common characteristics. Recent immigrants are thus almost twice as likely as established immigrants to report a strong sense of belonging to their country of origin (odds ratio of 1.92). The same finding prevails in models that take into account the expression of a strong sense of belonging with people of the same ethnicity or culture (odds ratio of 1.33).

Canadian-born people with immigrant parents also have a higher propensity than established immigrants to feel a strong attachment to people of the same ethnicity or culture and with the same mother tongue (odds ratios of 1.55 and 1.60). These results suggest that cultural transmission in general, and transmission of the parents' mother tongue in particular, is a determining factor in the second generation's affirmation of identity. Various studies have shown the importance of the mother's role in mother tongue transmission (Vézina and Houle 2014; Bouchard-Coulombe 2011). The mother is usually the parent who is more likely to pass on her mother tongue, even if it is a minority language where she lives.[23]

In summary, this fourth series of models has shown that the association between the place of residence and the sense of belonging to various geographical units and with people sharing common characteristics is weak, even nonexistent. The results of the logistic regressions have thus shown that the type of municipality of residence and the CMA affect the attachment to the town or city of residence. In this series of eight models, this was the only model in which a statistically significant correlation with the place of residence was observed.

23. It is therefore not surprising that women seem more likely than men to feel a greater sense of belonging with people who have the same mother tongue. The corresponding odds ratio is 1.40 (see Appendix 6). Except for the model on the sense of belonging to the town or city, women tend to express a stronger attachment than men to Canadian communities at all levels, and especially toward people with the same mother tongue and the same ethnic or cultural origin.

Conclusion

The purpose of this study was to examine, on the one hand, recent trends in the settlement of the population with an immigrant background and, on the other hand, the role of the place of residence in social integration through four components: characteristics of personal networks, relationships with neighbours, volunteering and civic engagement, and the sense of belonging.

The results of Part 3 showed that the settlement models of the population with an immigrant background in major urban agglomerations are different from those that prevailed in the past, and the difference has grown in recent years. Data from the 2001 and 2006 censuses and from the 2011 NHS showed that the initial settlement of immigrants in the central municipality and the processes of suburbanization that follow no longer represent the predominant settlement mode of immigrants. Newcomers tend to settle more in the periphery of the central municipality, most often in the municipalities immediately surrounding it. Suburbanization was seen to lead to the formation of new concentrations of immigrants in the central municipality and periphery, and this appears to be accompanied by the settlement patterns moving to the peripheries of Canada's three major CMAs. The topic definitely deserves further study.

The results of the analyses performed using the dissimilarity indices of the country of origin showed that there is no marked contrast between the central and the peripheral municipalities and that the differences between the population groups with an immigrant background are larger than the difference between the central municipalities and the peripheral municipalities. The analyses in the first part confirmed the idea put forth in other studies that peripheral municipalities are diverse spaces as a result of the suburbanization of the population with an immigrant background and the emergence of the concentrations that accompany this suburbanization. In this context, the theory of spatial assimilation, which states that settlement in peripheral municipalities is accompanied by dispersion, is not confirmed here. Moreover, according to the assumptions of the theory of spatial assimilation, the dispersion of groups must be accompanied by the acquisition of a higher socioeconomic status and by the mastery of the country's official languages, which were not examined in the settlement process in the periphery of CMAs. Nevertheless, examining these trends made it possible to call into question the effect of settlement patterns on certain components of the social integration of immigrants and their second-generation descendants.

Specifically, this study examined the extent to which the geographical location of the place of residence (centre or periphery) and the demographic weight of the population with an immigrant background in the neighbourhood were associated with "setting down one's roots" and social integration. These analyses of social integration looked at personal networks; relationships with neighbours; participation in various social, cultural and social engagement activities; and the sense of belonging to the place of residence and with people sharing common characteristics.

The overall results from the four series of regression models do not lead to the conclusion that the settlement pattern characteristics presented in this study are the determinants that are most associated with the components of social integration examined.

First, an analysis of personal networks showed that the propensity to have a larger number of social ties depended mostly on the period of immigration and the generation. Residents of first- and second-ring peripheral municipalities were less likely than their counterparts in central municipalities to have personal networks of more than 15 people and to have more than 10 acquaintances. One explanation is related to family ties in the local personal networks of residents in peripheral municipalities. The number of close relatives reported is in general smaller than the number of friends. These results appear to reflect different modes of sociability and the prevalence of nearby family networks in peripheral municipalities, rather than a lack of social integration as such. Analyzing the frequency of meetings with family members and of contact with friends from another ethnic group reinforced this idea. The population in peripheral municipalities had more meetings with relatives and contacted more friends from another ethnic group than the population in central municipalities.

As for relationships with neighbours, this study cannot conclude that the selected residential characteristics affected the propensity to know more neighbours, to exchange favours and to trust more neighbourhood residents. Regardless of the settlement pattern, approximately one-third of the population with an immigrant background reported knowing all or most of their neighbours. However, the percentage of residents who exchanged favours with a neighbour in the last month was not as high in neighbourhoods with a higher concentration of immigrants

as in those with a lower concentration. It was also noted that residents were more likely to trust many or most of the residents in their neighbourhood in neighbourhoods where the weight of the population with an immigrant background is smaller than in moderately concentrated or highly concentrated neighbourhoods. These data suggest that the neighbourhoods where the population with an immigrant background is strongly represented are less conducive to exchanging favours and to trusting many neighbours. When the effects of other factors were controlled for, none of the effects for these indicators were statistically significant. As for the type of municipality of residence, the regression analysis results also showed that relationships with neighbours were not associated with this residential settlement characteristic.

Examining volunteer and group activities sheds light on the weak effect of the characteristics of the place of residence on these activities. On the one hand, volunteering and involvement in a community or neighbourhood organization were not associated with the type of municipality (central or first- or second-ring peripheral) or neighbourhood of residence. On the other hand, the likelihood of being involved in an immigrant association was greater in neighbourhoods where the population with an immigrant background represented the majority. This result confirms the findings of various studies on ethnic enclaves as places of mutual assistance and support, and a source of practical help.

In addition to examining social ties developed in Canada, the analyses showed that the characteristics of the place of residence that were examined were not the main determinants of the sense of belonging to the place of residence and to Canadian communities. A large majority of immigrants and second-generation individuals reported feeling a very strong or somewhat strong sense of belonging to Canada, their province, their city and their local community. Among the factors that may strengthen the sense of belonging to any of these places of residence, the results showed that the effect of residential settlement characteristics was, in most cases, not significant. Only residents of peripheral municipalities tend to express a weaker attachment to their city.

In conclusion, settlement patterns and, especially, the geographical location of the place of residence (central or peripheral) and the demographic weight of the population with an immigrant background in the neighbourhood, are not the contextual characteristics that are most associated with the development of social ties in Canada and with the social integration of immigrant groups. Overall, the sense of belonging to the local community is stronger when immigrants and the second generation people are part of larger personal network. The same finding applies for relationships with neighbours and participation in social engagement activities. The immigrants and their descendants who are integrated into a local personal network and participate in community activities, such as religious practices, are more likely to have a higher number of acquaintances with neighbourhood residents, to trust their neighbours and to volunteer.[24]

Despite the fact that the size of networks among the population with an immigrant background may vary by place of residence, the time spent in the country since arrival as well as the generational status play a large role in the development of a heterogeneous and extended personal network.

As stated in other studies, social integration is a complex process that unfolds over time and through interactions and social ties developed with the host society.

24. See appendices 3 to 6, which present the detailed results of the models that were not analyzed in this study. Appendix 2 provides a few details on the development of these other independent variables in the models.

Appendix 1

Table A1
List and description of selected indicators and corresponding type of regression

Indicator	Type of variable	Type of regression	Description
		Personal networks	
People with a personal network of more than 15 people	Binary	Logistic	The total size of the local personal network is measured as all the social relationships with people living in the same city or local community as the respondent. This may include all types of ties, such as family members living in another household to whom the respondent feels close, close friends, and acquaintances (or other friends). In 2013 the median size of personal networks was 16 people. This variable was grouped into two categories.
People with a network of more than 10 acquaintances	Binary	Logistic	The size of the network of acquaintances corresponds solely to the number of acquaintances or other friends living in the same city or local community as the respondent. In 2013 the median number of acquaintances was 10. As with the total size of personal networks, the study population was grouped into two equivalent categories.
New people met in the last month	Ordinal	Ordered logistic	In the GSS on Social Identity, respondents were asked to indicate the number of new people they had met outside school or work in the month preceding the survey with whom they intended to remain in contact. The possible answers are none, 1 or 2, 3 to 5, 6 to 10, 11 to 20, and 20 or more.
Meetings with family in the last month	Ordinal	Ordered logistic	The frequency of meetings with family members refers to the number of in-person contacts with family members living in another household that occurred in the last month (every day, a few times a week, once a week, two or three times a month, once a month, or not in the past month).
Meetings with friends in the last month	Ordinal	Ordered logistic	The frequency of meetings with friends, including close friends and acquaintances.
Ethnic diversity of friends with whom respondents have had contact in the last month	Ordinal	Ordered logistic	In the GSS, respondents are asked to indicate whether "all," "most," "about half," "a few" or "none" of the friends with whom they have had contact in the last month, whether in person, on the telephone, by text message or by email, belonged to an ethnic group **visibly** different from their own.
		Relationships with neighbours	
Knowing neighbours	Ordinal	Ordered logistic	The number of residents known in the neighbourhood is measured by asking respondents whether they know most, many, a few or no residents in the neighbourhood.
People who did a favour for or received a favour from a neighbour in the last month	Binary	Logistic	Mutual assistance in the neighbourhood refers to respondents who reported having done a favour for or received a favour from a neighbour in the last month.
Number of neighbours whom respondents trust	Ordinal	Ordered logistic	Respondents were required to indicate the number of people in the neighbourhood whom they trusted: (1) most of the people, (2) many of the people, (3) a few of the people, or (4) nobody in the neighbourhood.
		Volunteering and civic engagement	
Volunteering	Binary	Logistic	Like for the other two activities, the reference period for volunteering is the 12 months preceding the survey.
Members of or participants in a school group or a neighbourhood or community association			This may be, for example, a parent–teacher or student association, Block Parents or Neighbourhood Watch. This type of participation, like that in immigrant or ethnic associations, may be in official or unofficial organizations.
Members of or participants in an immigrant or ethnic club or association			It is not possible to determine whether respondents did or received a favour, but respondents are known to have participated in the year preceding the survey.
		Sense of belonging	
Local community	Ordinal	Ordered logistic	For each aspect, respondents had to describe their sense of belonging by selecting one of the following responses: very strong, somewhat strong, somewhat weak, very weak or no opinion. The last category was not included in the analyses.
City			
Province			
Canada			
Country of origin			
People of the same ethnicity or culture			
People with the same mother tongue			

Appendix 2 Independent variables

The independent variables include three types of factors: characteristics of settlement patterns, individual characteristics and sociability-related variables (e.g., size of personal networks, volunteering, religious practice and discrimination). The distribution of respondents by each of these variables is presented in Table A2. The table compares the characteristics of recent immigrants, established immigrants and the second-generation population.

Characteristics of settlement patterns

Two characteristics of settlement patterns are examined to determine the extent to which certain contexts may be associated with components of social integration. The analysis of results considers first the type of municipality (central and first- and second-ring peripheral), then the demographic weight of the population with an immigrant background in the neighbourhood.

The following municipalities have been grouped together as first-ring municipalities. In the Montréal CMA they are Dollard-Des-Ormeaux, Dorval, L'Île-Dorval, Pointe-Claire, Kirkland, Sainte-Anne-de-Bellevue, Baie-D'Urfé, Senneville, Beaconsfield, Laval, Boucherville, Longueuil, Saint-Lambert and Brossard. All other municipalities, except those that are part of the central municipality, have been designated as second-ring municipalities.

In the Toronto CMA the following municipalities have been grouped together as first-ring peripheral municipalities: Mississauga, Brampton, Vaughan, Markham, Pickering, Richmond Hill and Ajax. Except for the municipality of Toronto, the other municipalities in the metropolitan region of Toronto have been grouped together and designated as second-ring peripheral municipalities.

In the Vancouver CMA the municipalities of Richmond, Greater Vancouver A, Burnaby, West Vancouver and North Vancouver have been designated as first-ring peripheral municipalities. Other than the municipality of Vancouver, the other municipalities of the CMA have been grouped together as second-ring peripheral municipalities.

The median income of the population of the neighbourhood is also considered in the analyses as a contextual control variable. NHS data were used to calculate the relative median total income of the population of the CT in which the respondent lives. The median income of each CT was divided by the median income of the entire population of the CMA to obtain a relative value that controls for differences in income between the three CMAs studied.

In addition, given that the individual income collected in the GSS on Social Identity had too many missing values, this information was not used; the relative median income of the CT of residence was used instead.

Individual characteristics

Time spent in the host country and being born in Canada of immigrant parents definitely affect social integration. To account for this time dimension in the models, the following three population groups were identified: recent immigrants, established immigrants and the second-generation population. Time is measured in this case by period of immigration and generation. Of course, the GSS data cannot be used to follow the same people over time. Nonetheless, those who arrived between 2006 and 2013 were compared with those who arrived in 2005 or earlier and with the second generation. This kind of comparison makes it possible, in a way, to examine the effect of the time dimension of immigration on integration, but not to determine the actual effect of passing from one period or generation to the next.

The analyses control for the effect of other sociodemographic characteristics such as sex, age, living alone,[25] educational attainment, having a job, and region of birth of the respondent (or the respondent's mother for the second generation). Countries of birth are grouped into nine categories: North America (United States),

25. Family status, such as living as a couple without children, as a couple with children, alone with a child, or with one or both parents, was included in previous analyses but then removed, since none of the categories presented a significant association. These categories are presented in Table 1 for information purposes. In addition, other studies have shown that living alone is negatively correlated with certain characteristics of personal networks, compared with people who live as a couple (with or without children) (Vézina 2011).

the Caribbean, Central and South America, Europe, Africa, the Middle East and West Asia, East Asia, South Asia, and Southeast Asia and Oceania.

Religious practice

Religious practice is an individual and cultural characteristic that can play a role in the development of social ties and social integration. American studies have shown that participation in religious activities enables immigrants not only to use their mother tongue, but to provide economic, social and language assistance, especially to recent immigrants (Cadge and Ecklund 2007; Hirschman 2004). In particular, these studies have shown that places of worship may provide official or informal assistance with housing, the language of the host country and the education of children (Hirschman 2004).

Religious practice is measured by asking respondents how often they participated in activities or attended religious meetings or services in the last year. Rites of passage such as weddings, funerals, baptisms and bar mitzvahs are not included. Since each religion has its own requirements, this variable was grouped into two categories: not at all versus at least once a year. Preliminary analyses showed that even if religious practices are limited to a few times a year, they can still contribute to the development and maintenance of a large number of social relationships and to the strengthening of the sense of belonging to the local community.

Size of personal networks and volunteering

Preliminary analyses and other studies have shown that volunteering is a practice that contributes to the development of personal networks that are broader and more diversified (UNECE 2015). Conversely, social relationships may motivate and influence participation in certain group activities, such as volunteering.

The size of personal networks and volunteering are thus variables that may be analyzed from a two-way perspective. In this study, the size of personal networks and volunteering are, on the one hand, examined as indicators of social integration (dependent variable) in the first and third series of models dealing with personal networks and social participation and group activities. On the other hand, they are used as independent variables in the other models when appropriate.

Having been the victim of discrimination or unfair treatment

This variable reflects another dimension of social integration, namely the openness of the host population, and accounts for the quality of certain social contacts with the host society (Entzinger and Biezeveld 2003; Wu, Schimmele and Hou 2010). In this study, the "discrimination" variable is used as a control variable. In the GSS, having been the victim of discrimination or unfair treatment from other people is an event that may have occurred in the five years preceding the survey as a result of one of the following: ethnicity or culture, physical appearance, religion or language. In total, 30% of the study population reported having been the victim of discrimination for one of these reasons. This social experience is accounted for as an independent variable in all the regression models.

Table A2
Independent variables used in statistical models with GSS data, census metropolitan areas of Montréal, Toronto and Vancouver, 2013

		Period of immigration and generation		
Independent variables	Total	Recent immigrant	Established immigrant (ref.)	Second generation
	number			
Total	4,192,535	601,917	2,342,972	1,247,646
	percentage			
Sex				
Male	50	56*	48	51
Female	50	44*	52	49
Age				
15-24	15	15**	6	33**
25-34	17	36**	10	19**
35-44	21	32**	19	18
45-54	18	9E**	22	16**
55-64	13	7E**	19	6**
65 and older	15	F**	23	8**
Family situation				
Single	10	6E**	12	9*
Couple	19	16**	24	12**
Couple with children	35	48**	36	27**
Single parent	3	4E	4	...
Living with one or both parents	21	15*	9	46**
Other	12	11E	15	6E**
Language spoken most often at home				
Other	31	54**	37	10**E
English or French	69	46**	63	90**
Education				
High school diploma or less	35	27	30	47**
Post-secondary diploma	23	14**	26	21*
University degree	42	59**	44	31**
Has a job or is self-employed				
No	46	43	43	51**
Yes	54	57	57	49**
Size of personal network				
15 people or fewer	53	62	59	38**
More than 15 people	47	38	41	62**
Has done volunteer work				
No	69	71	71	64*
Yes	31	29	29	36*
Religious practice				
Never	35	34	34	36
Once or twice a year	15	15	14	16
One to three times a month	27	24	27	30
At least once a week	23	26	25	17**
Victim of discrimination or unfair treatment				
No	69	66	70	69
Yes	31	34	30	31
Metropolitan area				
Montréal	19	26**	18	19
Toronto	60	48**	63	62
Vancouver	20	27**	19	20
Type of municipality				
Central	43	49	43	40*
Peripheral 1st ring	40	37	40	40
Peripheral 2nd ring	17	14	16	20*
Demographic weight of immigrant population in neighbourhood				
Less than 50% (ref.)	26	23	24	30*
50% to less than 70%	31	30	31	31
70% or greater	43	47	45	38*
Region of birth				
North America	2	3E	F	F*
The Caribbean	6	5E	7	5E
Central and South America	6	7E	6	5E
Europe	36	15**	33	54**

Table A2 (end)
Independent variables used in statistical models with GSS data, census metropolitan areas of Montréal, Toronto and Vancouver, 2013

		Period of immigration and generation		
	Total	Recent immigrant	Established immigrant (ref.)	Second generation
Independent variables	number			
Total	4,192,535	601,917	2,342,972	1,247,646
	percentage			
Region of birth				
Africa	8	15**	8	F**
Middle East and West Asia	6	11[E]	7	F*
East Asia	10	16*	11	7
South Asia	15	14[E]	16	14
Southeast Asia and Oceania	10	13	11	8[E]

[E] use with caution
F too unreliable to be published
* significantly different from reference category (ref.) at $p < 0.05$
** significantly different from reference category (ref.) at $p < 0.01$
Source: Statistics Canada, General Social Survey on Social Identity, 2013.

Appendix 3

Table A3

Individual and contextual characteristics associated with certain characteristics of personal networks, census metropolitan areas of Montréal, Toronto and Vancouver, 2013

	Characteristics of personal networks					
	Analysis method - logistic regressions		Analysis method - ordered logistic regressions			
Individual and place of residence characteristics	Persons with a personal network of more than 15 people	Persons with a network of acquaintances of more than 10 people	Meetings with family in the last month	Meetings with friends in the last month	New people met in the last month	Ethnic diversity among friends contacted in the last month
	odds ratios[1]					
Sex						
Male (ref.)	1.00	1.00	1.00	1.00	1.00	1.00
Female	0.83	0.71**	1.25*	0.88	0.66**	0.93
Age						
Age	0.94**	0.93**	1.01	0.91**	0.94**	0.94**
Age squared	1.59*	1.81**	0.98	2.11**	1.47*	1.43
Living alone						
No (ref.)	1.00	1.00	1.00	1.00	1.00	1.00
Yes	1.63**	1.22	0.95	0.71**	0.91	0.92
Language spoken most often at home						
Other (ref.)	1.00	1.00	1.00	1.00	1.00	1.00
English or French	1.31	1.36*	1.27*	1.08	1.08	1.51**
Education						
High school diploma or less (ref.)	1.00	1.00	1.00	1.00	1.00	1.00
Post-secondary diploma	1.00	0.93	1.10	0.98	1.03	1.21
University degree	1.31	1.01	1.15	0.68**	1.36*	1.16
Has a job or is self-employed						
No (ref.)	1.00	1.00	1.00	1.00	1.00	1.00
Yes	1.21	1.52**	0.91	0.93	1.20	1.04
Relative median income of households in neighbourhood of residence	1.96**	1.39	1.36	1.01	1.20	0.86
Has done volunteer work						
No (ref.)	1.00	1.00	1.00	1.00	1.00	1.00
Yes	2.13**	2.00**	1.21	1.37**	2.02**	1.59**
Religious practice						
No (ref.)	1.00	1.00	1.00	1.00	1.00	1.00
Yes	1.23	1.06	1.36**	1.05	1.05	1.09
Victim of discrimination or unfair treatment						
No (ref.)	1.00	1.00	1.00	1.00	1.00	1.00
Yes	1.04	1.19	0.85	1.07	1.18	1.34*
Census metropolitan area						
Montréal	0.90	0.66**	1.44**	1.00	0.89	0.63**
Toronto (ref.)	1.00	1.00	1.00	1.00	1.00	1.00**
Vancouver	1.20	1.28	1.00	1.25	0.96	0.98
Type of municipality						
Central (ref.)	1.00	1.00	1.00	1.00	1.00	1.00
Peripheral 1st ring	0.73*	0.71*	1.33*	1.01	0.94	0.75*
Peripheral 2nd ring	0.50**	0.44**	1.26	0.73*	0.88	0.74*
Demographic weight of immigrant population in neighbourhood						
Less than 50% (ref.)	1.00	1.00	1.00	1.00	1.00	1.00
50% to less than 70%	1.28	1.03	1.07	0.95	1.06	0.86
70% or greater	0.93	0.68*	1.03	0.74*	0.87	0.85
Period of immigration and generation						
Recent immigrant	0.67*	0.70*	0.38**	0.91	1.49*	0.69**
Established immigrant (ref.)	1.00	1.00	1.00	1.00	1.00	1.00
Second generation	1.38*	1.13	1.52**	1.11	1.07	0.91
Region of birth or origin						
North America	1.85*	1.83*	0.74	1.65*	1.15	1.23
The Caribbean	0.54*	0.73	1.38	0.87	1.12	2.01**
Central and South America	1.11	1.17	0.66	1.06	1.03	1.76**
Europe (ref.)	1.00	1.00	1.00	1.00	1.00	1.00

Table A3 (end)
Individual and contextual characteristics associated with certain characteristics of personal networks, census metropolitan areas of Montréal, Toronto and Vancouver, 2013

	Characteristics of personal networks					
	Analysis method - logistic regressions		Analysis method - ordered logistic regressions			
	Persons with a personal network of more than 15 people	Persons with a network of acquaintances of more than 10 people	Meetings with family in the last month	Meetings with friends in the last month	New people met in the last month	Ethnic diversity among friends contacted in the last month
Individual and place of residence characteristics	odds ratios[1]					
Africa	0.60	0.73	0.86	1.25	0.76	2.11*
Middle East and West Asia	1.12	0.93	1.36	0.88	0.98	2.16**
Region of birth or origin						
East Asia	0.66	0.76	0.48**	0.81	0.65*	1.46*
South Asia	0.80	0.72	0.85	0.85	0.92	1.60**
Southeast Asia and Oceania	0.77	1.09	0.73	1.10	1.28	2.01**

* significantly different from reference category (ref.) at $p < 0.05$
** significantly different from reference category (ref.) at $p < 0.01$
1. An odds ratio of 1 means that the likelihood of observing the phenomenon is 100%.
Source: Statistics Canada, General Social Survey on Social Identity, 2013.

Appendix 4

Table A4
Individual and contextual characteristics associated with neighbourhood practices, census metropolitan areas of Montréal, Toronto and Vancouver, 2013

	Practices and perceptions of neighbourhood		
	Analysis method - ordered logistic regression	Analysis method - logistic regression	Analysis method - ordered logistic regression
Individual and place of residence characteristics	Knowing neighbours	Person having provided a service to or received a service from a neighbour in the last month	Number of neighbours whom the respondent trusts
	odds ratios[1]		
Sex			
Male (ref.)	1.00	1.00	1.00
Female	1.03	0.61**	0.81
Age			
Age	0.77	1.01	0.99
Age squared	0.77	0.90	1.33
Living alone			
No (ref.)	1.00	1.00	1.00
Yes	1.41	1.26	0.84
Language spoken at home			
Other (ref.)	1.00	1.00	1.00
English or French	1.02	1.00	0.97
Education			
High school diploma or less (ref.)	1.00	1.00	1.00
Post-secondary diploma	1.63*	1.16	1.49*
University degree	1.48	1.39	2.32**
Has a job or is self-employed			
No (ref.)	1.00	1.00	1.00
Yes	0.91	1.11	0.95
Relative median income of households in neighbourhood of residence	0.95	1.48	1.73*
Size of personal network			
15 people or fewer (ref.)	1.00	1.00	1.00
More than 15 people	1.92**	1.30	1.61**
Volunteering			
No (ref.)	1.00	1.00	1.00
Yes	1.02	1.25	1.10
Religious practice			
No (ref.)	1.00	1.00	1.00
Yes	1.37	1.59**	0.80
Victim of discrimination or unfair treatment			
No (ref.)	1.00	1.00	1.00
Yes	1.03	1.26	0.77
Length of residence in neighbourhood			
Less than 3 years (ref.)	1.00	1.00	1.00
3 years or more	2.83**	0.87	1.03
Census metropolitan area			
Montréal	0.90	1.53	0.54**
Toronto	1.00	1.00	1.00**
Vancouver	0.79	0.78	0.94
Type of municipality			
Central (ref.)	1.00	1.00	1.00
Peripheral 1st ring	0.95	0.93	1.16
Peripheral 2nd ring	1.37	0.93	0.92
Demographic weight of immigrant population in neighbourhood			
Less than 50% (ref.)	1.00	1.00	1.00
50% to less than 70%	0.76	0.91	0.73
70% or greater	0.82	0.75	0.68
Period of immigration and generation			
Recent immigrant	1.14	0.77	0.93
Established immigrant (ref.)	1.00	1.00	1.00
Second generation	0.99	1.15	1.18
Region of birth			
North America	1.44	1.67	1.80

Table A4 (end)
Individual and contextual characteristics associated with neighbourhood practices, census metropolitan areas of Montréal, Toronto and Vancouver, 2013

	Practices and perceptions of neighbourhood		
	Analysis method - ordered logistic regression	Analysis method - logistic regression	Analysis method - ordered logistic regression
Individual and place of residence characteristics	Knowing neighbours	Person having provided a service to or received a service from a neighbour in the last month	Number of neighbours whom the respondent trusts
	odds ratios[1]		
The Caribbean	0.55	1.36	0.35**
Central and South America	0.63	0.56	0.63
Region of birth			
Europe (ref.)	1.00	1.00	1.00
Africa	0.78	1.02	0.59
Middle East and West Asia	1.36	0.85	0.67
East Asia	0.89	0.57*	0.84
South Asia	1.38	0.85	0.60*
Southeast Asia and Oceania	0.59	0.74	0.52**

* significantly different from reference category (ref.) at $p < 0.05$
** significantly different from reference category (ref.) at $p < 0.01$
1. An odds ratio of 1 means that the likelihood of observing the phenomenon is 100%.
Source: Statistics Canada, General Social Survey on Social Identity, 2013.

Appendix 5

Table A5
Individual and contextual characteristics associated with volunteering and civic engagement activities, census metropolitan areas of Montréal, Toronto and Vancouver, 2013

	Cultural or group activities		
	Analysis method - logistic regressions		
Individual and place of residence characteristics	Volunteering	Members of or participants in a school group or a community or neighbourhood association	Members of or participants in an immigrant or ethnic club or association
	odds ratios[1]		
Sex			
Male (ref.)	1.00	1.00	1.00
Female	1.52**	1.16	0.92
Age			
Age	0.98	0.95*	1.00
Age squared	1.08	1.47	1.29
Living alone			
No (ref.)	1.00	1.00	1.00
Yes	0.93	1.69*	1.03
Language spoken most often at home			
Other (ref.)	1.00	1.00	1.00
English or French	1.24	1.05	0.39**
Education			
High school diploma or less (ref.)	1.00	1.00	1.00
Post-secondary diploma	1.28	0.98	0.93
University degree	1.78**	1.48	1.16
Has a job or is self-employed			
No (ref.)	1.00	1.00	1.00
Yes	0.67**	0.67*	0.93
Median income of households in neighbourhood of residence	1.27	1.04	0.67
Size of personal network			
15 people or fewer (ref.)	1.00	1.00	1.00
More than 15 people	2.15**	1.36	1.92**
Volunteering			
No (ref.)	1.00	1.00	1.00
Yes	...	3.93**	4.48**
Religious practice			
No (ref.)	1.00	1.00	1.00
Yes	1.95**	0.90	1.54
Victim of discrimination or unfair treatment			
No (ref.)	1.00	1.00	1.00
Yes	1.39**	1.60**	2.05**
Census metropolitan area			
Montréal	0.60**	0.53**	1.23
Toronto (ref.)	1.00	1.00	1.00
Vancouver	1.59**	0.94	1.18
Type of municipality			
Central (ref.)	1.00	1.00	1.00
Peripheral 1st ring	0.88	0.74	1.08
Peripheral 2nd ring	0.78	0.70	0.92
Demographic weight of immigrant population in neighbourhood			
Less than 50% (ref.)	1.00	1.00	1.00
50% to less than 70%	0.79	1.08	2.09**
70% or greater	0.99	1.25	1.66
Period of immigration and generation			
Recent immigrant	0.75	1.18	1.59
Established immigrant (ref.)	1.00	1.00	1.00
Second generation	1.13	1.08	1.29
Region of birth			
North America	2.06*	0.88	0.13**

Table A5 (end)
Individual and contextual characteristics associated with volunteering and civic engagement activities, census metropolitan areas of Montréal, Toronto and Vancouver, 2013

	Cultural or group activities		
	Analysis method - logistic regressions		
Individual and place of residence characteristics	Volunteering	Members of or participants in a school group or a community or neighbourhood association	Members of or participants in an immigrant or ethnic club or association
	odds ratios[1]		
The Caribbean	1.50	1.31	1.19
Central and South America	1.21	1.19	0.49
Europe (ref.)	1.00	1.00	1.00
Region of birth			
Africa	1.47	0.83	1.23
Middle East and West Asia	0.78	0.61	1.18
East Asia	1.32	1.04	0.93
South Asia	0.98	0.90	0.98
Southeast Asia and Oceania	0.88	0.92	0.92

... not applicable
* significantly different from reference category (ref.) at $p < 0.05$
** significantly different from reference category (ref.) at $p < 0.01$
1. An odds ratio of 1 means that the likelihood of observing the phenomenon is 100%.
Source: Statistics Canada, General Social Survey on Social Identity, 2013.

Appendix 6

Table A6

Individual and contextual characteristics associated with a sense of belonging with respect to place of residence, country of origin, and ethnic and language group, census metropolitan areas of Montréal, Toronto and Vancouver, 2013

	Sense of belonging with respect to place of residence, country of origin and groups of people						
	Analysis method - ordered logistic regressions						
Individual and place of residence characteristics	Local community	City	Province	Canada	Country of origin	People of same ethnicity or culture	People with same mother tongue
	odds ratios[1]						
Sex							
Male (ref.)	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Female	1.20	1.11	1.20	1.34*	1.19	1.48**	1.39**
Age							
Age	1.02	1.01	1.03	1.04*	0.98	1.02	1.01
Age squared	1.03	1.09	0.94	0.87	1.22	0.95	1.03
Living alone							
No (ref.)	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Yes	1.12	1.09	1.08	0.99	1.14	1.03	1.24
Language spoken most often at home							
Other (ref.)	1.00	1.00	1.00	1.00	1.00	1.00	1.00
English or French	0.94	1.07	0.99	1.07	0.55**	0.54**	0.60**
Education							
High school diploma or less (ref.)	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Post-secondary diploma	0.93	0.87	0.78	0.82	1.30	1.14	1.11
University degree	0.77	0.87	0.76*	0.78	1.29	0.83	0.83
Has a job or is self-employed							
No (ref.)	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Yes	0.97	0.98	1.00	1.01	0.97	0.87	1.00
Relative median income of households in neighbourhood of residence	1.39	0.94	0.94	1.20	0.83	1.18	1.05
Size of personal network							
15 people or fewer (ref.)	1.00	1.00	1.00	1.00	1.00	1.00	1.00
More than 15 people	1.71**	1.51**	1.15	1.14	1.20	1.50**	1.34**
Volunteering							
No (ref.)	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Yes	1.24	1.14	1.04	1.14	0.98	0.79*	0.89
Religious practice							
No (ref.)	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Yes	1.45**	1.20	1.09	1.16	1.14	1.37**	1.12
Victim of discrimination or unfair treatment							
No (ref.)	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Yes	0.73**	0.70**	0.61**	0.75*	0.95	0.88	0.97
Census metropolitan area							
Montréal	0.99	1.44*	0.85	0.92	1.31	1.14	1.06
Toronto (ref.)	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Vancouver	1.29	1.40*	1.08	0.92	0.91	0.87	0.85
Type of municipality							
Central (ref.)	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Peripheral 1st ring	0.86	0.64**	0.89	0.76	0.87	1.17	1.06
Peripheral 2nd ring	0.85	0.52**	0.99	0.90	1.29	1.21	1.17
Demographic weight of immigrant population in neighbourhood							
Less than 50% (ref.)	1.00	1.00	1.00	1.00	1.00	1.00	1.00
50% to less than 70%	0.90	0.94	0.86	0.97	0.93	1.14	1.02
70% or greater	0.81	0.91	0.83	1.09	1.06	1.25	1.27
Period of immigration and generation							
Recent immigrant	1.21	1.07	1.28	0.86	1.92**	1.33*	1.21
Established immigrant (ref.)	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Second generation	1.14	1.02	0.89	0.93	...	1.55**	1.60**
Region of birth							
North America	1.34	0.71	0.54	0.69	1.33	1.18	1.32
The Caribbean	2.01**	1.39	1.18	0.99	3.34**	3.10**	2.49**
Central and South America	0.83	1.36	1.59*	1.27	1.53	1.27	1.50
Europe (ref.)	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Table A6 (end)

Individual and contextual characteristics associated with a sense of belonging with respect to place of residence, country of origin, and ethnic and language group, census metropolitan areas of Montréal, Toronto and Vancouver, 2013

	Sense of belonging with respect to place of residence, country of origin and groups of people						
	Analysis method - ordered logistic regressions						
Individual and place of residence characteristics	Local community	City	Province	Canada	Country of origin	People of same ethnicity or culture	People with same mother tongue
	odds ratios[1]						
Region of birth							
Africa	2.13**	1.62*	1.34	1.31	1.42	1.67*	1.16
Middle East and West Asia	1.89**	1.99*	2.22**	1.37	1.20	1.42	0.78
East Asia	0.86	0.77	0.97	0.80	0.78	0.85	0.64*
South Asia	1.98**	2.24**	2.15**	1.64*	1.01	1.11	0.94
Southeast Asia and Oceania	1.43	0.95	1.13	0.73	1.97**	1.36	1.10

... not applicable

* significantly different from reference category (ref.) at $p < 0.05$

** significantly different from reference category (ref.) at $p < 0.01$

1. An odds ratio of 1 means that the likelihood of observing the phenomenon is 100%.

Source: Statistics Canada, General Social Survey on Social Identity, 2013.

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